Final
Environmental Impact Report
EE 81.18

Marathon Development California, Inc.

SECOND AND FOLSOM PROJECT

San Francisco, California

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SAN FRANCISCO DEPARTMENT OF CITY PLANNING 450 McAllister Street · San Francisco · CA 94102

FINAL ENVIRONMENTAL IMPACT REPORT

MARATHON DEVELOPMENT CALIFORNIA, INC.

SECOND AND FOLSOM PROJECT
SAN FRANCISCO, CALIFORNIA

EE 81.18
JULY 1982

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● Changes in the text of the Draft EIR are indicated by solid dots at the beginning of each revised section, paragraph or table.

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I. SUMMARY

A. PROJECT DESCRIPTION

The proposed Second and Folsom project would be located on a 136,000 square foot site generally bounded by Second, Folsom, Essex, and Harrison Streets, Assessor's Block 3749, Lots 25 and 51, San Francisco, California. The site is adjacent to the C-3-S (Downtown Support) District.

The project sponsor is seeking conditional use approval for a planned unit development designed for general office use by existing San Francisco corporations who wish to remain in the City and are in need of office space with large floors to house their clerical, secretarial, and administrative support staffs.

The proposed project consists of 2 mid-rise office buildings. Building A would be a 12-story structure with a gross floor area of about 403,000 square feet. Building B would be an 11-story structure with a gross floor area of approximately 351,000 square feet. The total gross floor area would be 754,000 square feet.

The proposed project would have 592,000 square feet of occupied floor area including 26,000 square feet of ground floor commercial space and 566,000 square feet of office space. Ground-level commercial space would include retail shops and/or offices such as a drugstore, travel agency, bank, flower shop, jewelry store, shoe repair, title insurance company, restaurant, clothing boutique, or book store. Floors above the ground level would be devoted to office use. Mechanical equipment would occupy about one-half the floor area on the top occupied floor of each building. There would be a rooftop penthouse on each building.

The proposed office complex would face onto a central courtyard located between the 2 buildings; pedestrian access to the courtyard would be via Second Street and via arcades at the ground levels of both buildings. Pedestrian access to Building A would be primarily at the corner of Second and Folsom Streets; pedestrian access to Building B would be primarily through the courtyard. Pedestrian access to Building A would also occur via

Second Street and via the arcade. The 2 buildings would be connected at lower levels by covered pedestrian walkways.

- Off-street parking and loading for the proposed project would be behind both office buildings, adjacent to the Bay Bridge bus ramps and the elevated freeway. Three hundred fifty-eight parking spaces, 4 truck loading areas and 4 van loading areas would be provided.

The project sponsor estimates that construction would cost approximately $50 million. Construction would begin upon project approval and would take approximately 2 years. Assuming receipt of approvals by March 1982, occupancy would be planned for March 1984.

The site is located in an M-1 (Light Industrial) district. The basic floor area ratio (FAR) applicable to the M-1 district is 5:1. In an M-1 Zoning District, a floor area premium of 25% for that portion of a lot falling within 125 feet of the corner may be added to the site area for the purpose of calculating the allowable gross floor area for the site. Using this premium, the allowable gross floor area for the site would be 721,270 square feet. The buildings would have a gross floor area of 754,000 square feet and an FAR of 5.23 to 1.

The height and bulk district for Lot 25 is 130-G, which allows a maximum building height of 130 feet with a maximum building length of 170 feet and a maximum diagonal dimension of 200 feet above 80 feet. Lot 51 is in height and bulk district 105-F, which allows a maximum building height of 105 feet and maximum length and diagonal dimensions of 110 feet and 140 feet above 80 feet, respectively. Building A would be 130 feet in height; Building B would be 105 feet in height.

B. IMPACTS

1. Initial Study

An Initial Study was prepared for the Second and Folsom project to identify potential environmental issues resulting from the proposed project. These issues are covered in this EIR. Certain potential environmental issues of the proposed project were determined to be insignificant, and therefore are not addressed in this EIR. A copy of the Final Initial Study is attached to this report as Appendix A, page A-1.

2. Land Use

- The proposed project would cumulatively contribute to new and proposed development occurring adjacent to the C-3-S district.

The proposed project would add 566,000 square feet of office space and 26,000 square feet of ground floor commercial space to the South of Market area.

3. Visual and Urban Design

The proposed structures would partially obstruct views to portions of the Financial District and adjacent buildings from the freeway and surface locations south of the project site.

The project would not comply with applicable bulk requirements. The 2 parcels involved are in 2 different height and bulk districts. The project has been designed independently from these district boundary lines in the format of a PUD.

The project would represent a continuation of the trend toward buildings without detailed ornamentation.

4. Population, Employment and Housing

The 47 to 48 jobs currently at the site would be relocated to a new site either in San Francisco or the East Bay. Approximately 3,000 new jobs would be created on the site due to the new office/retail use. A total of 830 person-years of construction labor would be generated.

The new office space would result in a demand for approximately 635 housing units.

5. Transportation

The proposed project would generate about 11,900 daily person trips. Approximately 2,200 of the daily trips would occur during the evening peak hour.

There would be a decrease in traffic Level of Service from B to C at the intersection of Folsom and Second Streets (see Appendix D, page A-53, for Definitions of Levels of Service).

Increased traffic in the industrial area south of the project site due to cumulative development would increase the degree of traffic conflict with truck delivery and loading functions. Truck delivery and loading would be disruptive to through-traffic flow. The increased through-traffic would make truck maneuvering such as backing up to loading docks more difficult.

The project would add up to 2% to the 1983 Muni load factors. Cumulative downtown development would raise load factors by up to 25%.

With a design capacity of 8,090 peak-hour passengers, the effect of cumulative downtown development on Golden Gate Transit would be to raise patronage beyond this figure by 1983. The project would add 1 to 2% to existing peak hour ridership.

- The proposed project's parking requirements would be 1,196 spaces according to the San Francisco Planning Code. Based upon City guidelines, a demand analysis indicates that 886 automobile spaces would be required. A survey analysis of office buildings within one block of the site, conducted for the project sponsor, indicates a demand of 786 auto parking spaces. The proposed project would provide 358 parking spaces, leaving a deficit of approximately 430 to 840 spaces. A transportation program could reduce the parking demand approximately 150-200 spaces (see Section I.C.2., page 6).

6. Air Quality and Climate

The project would act as an indirect source of atmospheric emissions by generating automobile traffic.

Shadows from the project would affect the south side of Folsom Street and the freeway ramps east of the site.

7. Noise

Instantaneous maximum interior sound levels of up to 60 dBA on the upper floors would be expected as trucks and buses pass on nearby roadways. Instantaneous maximum interior sound levels of up to 58 dBA on the lower floors would be expected as trucks and buses pass on Second Street. An analysis of the noise reduction requirements of the proposed project could be done, and necessary noise insulation features would be included in the design.

During construction, noise- and vibration-generating activities, particularly the use of impact wrenches, would have an impact on the PT&T Building across Second Street, and the buildings located across Folsom Street. Construction noise in San Francisco is regulated by the Noise Ordinance.

8. Community Services and Public Utilities

A preliminary flow test of the existing water mains serving the project area indicated that obtaining the minimum flow rate at fire pumps of 750 gpm, as required by the Building Code, may require new piping.

9. Economic and Fiscal

Total annual property tax that would be expected from the proposed project would be $631,000. The net addition to the San Francisco property tax base would be about $61.2 million. The net increase over existing composite property tax revenues to San Francisco would be from $520,000 to $640,000.

The project would generate new payroll, business, sales and utility uses tax revenues that would range from $923,000 to $1,071,000.

10. Energy

The total annual energy use for the proposed project would be 76 billion BTU. This would be the equivalent of 13,600 barrels of oil. Design features would be incorporated into the building to minimize energy consumption and comply with the requirements of California Administrative Code, Title 24, Energy Conservation Standards.

11. Historical and Cultural Resources

Historical artifacts may be encountered during project development.

12. Growth

The project would represent a growth of about 1% in the high-rise office space in downtown San Francisco.

The project would continue the trend toward intensified office use south of Market Street. Together with other new office development near the site, it could stimulate further office growth in the immediate vicinity on lots currently used for parking or occupied by low-rise structures containing business support services.

C. MITIGATION MEASURES

1. Visual

The project sponsor is considering an alternative design which would reduce the visual impact of the project.

2. Housing

The 635 housing-unit demand could be met by either providing for all of the units off-site or by providing for a portion of the units on-site, in a mixed-use development, with the remainder off-site. The project sponsor has not agreed to either of these mitigation measures for economic reasons.

3. Transportation

The project sponsor would implement a transportation program with a goal of reducing employee single-occupant auto commuting to under 10% of the total employee work force within 3 years. This would reduce the project's parking demand by approximately 150-200 spaces, leaving a deficit of 230 to 690 spaces.

● The project sponsor would cooperate with other South of Market developers in studying cumulative transit impacts and in developing solutions for South of Market transit impacts resulting from cumulative development in the area. The project sponsor would participate in the solution(s) developed from the study.

4. Air Quality

Car pooling, van pooling, staggered work hours, and other transportation mitigation measures would also mitigate air quality impacts.

5. Noise

If special noise problems arise at nearby sites, mitigation measures that would be considered include scheduling noisy activity during minimum use time and shielding windows with gypsum board.

6. Water Service

The project sponsor would contact the San Francisco Water Department to conduct a water main capacity test. If required, the project sponsor would request the Water Department to increase the size of the water main serving the proposed project. The costs would be borne by the project sponsor.

7. Energy

The project sponsor would monitor the structure's energy use for space and water heating, ventilation, air conditioning and lighting, for a period of 1 year. If the structure's energy use exceeds the 126,000 BTU per gross square foot per year limitation stipulated by Title 24, an energy audit would be performed, and mitigation measures would be developed to bring the energy consumption into conformity with the law.

8. Seismicity

The effects of excavation on the elevated approach ramp east of the site would be evaluated and appropriate shoring would be emplaced.

- An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation of the Mayor's Office of Emergency Services, to insure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by building management before issuance by the Department of Public Works of final building permits.

D. ALTERNATIVES

A No Project Alternative would involve no new construction. The existing parking lot and 2- to 3-story building would remain indefinitely. Based on an analysis showing the need for a large-floor use office building close to the financial district, the project sponsor favors a San Francisco location. No other Bay Area locale has been identified which meets the financial and design criteria of the project sponsor.

A Phased Project Alternative would complete half of the project before construction on the second half begins. Office, commercial, and parking space would be equally divided

between the 2 phases. Impacts occurring from the proposed project would be distributed over an extended time period. Construction traffic impacts would last longer but would not be as intense. Visual impacts would not reach full magnitude until project completion. Each phase would be designed and marketed to stand on its own financially.

The project sponsor is considering the option of submitting a subdivision application to allow an office condominium development. This type of development could provide increased revenue to the City compared to the proposed project.

The proposed project would create a potential City housing demand of approximately 635 units. Due to current zoning, 227 housing units (340 units under a PUD) would be allowed on the project site. Four housing alternatives are suggested. The first alternative would involve the proposed project plus housing. Units would be added to Building B causing it to exceed the height limit. The housing construction would be exposed to excessive freeway noise. Energy use would be increased and demand on municipal services would be higher than for the proposed project.

A reduced office project plus housing would have many of the same impacts as the proposed project, although less intense. This alternative would comply with height and bulk limitations.

The third housing alternative would locate all housing off-site. The location, housing mix, inclusion of low and moderate-income housing, and method of financing for 635 housing units has not been determined.

The fourth housing alternative would locate all housing on site with no office building. This could ameliorate the housing demand in San Francisco depending on the type of housing constructed. Noise impacts would be similar to the first housing alternative but energy demand would be less. Parking demands, and pedestrian and transit impacts would vary. Demands on municipal services would be greater than for the proposed project. The project sponsor has made a decision to not include on-site housing as part of the proposed project because a reduction of the proposed project to accommodate housing would be economically infeasible.

- Because the project could be bulkier than the existing low-rise structures in the area, the project sponsor has adopted an alternative design ("Study 4") that attempts to reduce the visual impact of the project. With this alternative the bulk limits would be exceeded, and wind effects may be greater along Second and Folsom Streets. All other impacts would be similar to those of the proposed project.

An industrial facility of 100,000 square feet has been considered with parking; the total space would be 117,500 square feet. Although a much larger facility could be built, the project sponsor feels that it would be hard to market. With this alternative, noise, traffic, energy, and shadow effects would be less than those of the proposed project.

- An office/retail project complying with the Planning Code would not exceed height and bulk limits. It would require 909 parking spaces. To achieve this alternative the office space for the proposed project would have to be reduced by 32%. All impacts would be accordingly reduced. The project sponsor does not consider this to be an economically viable alternative.

The last alternative is derived from applying the guidelines that are proposed in Guiding Downtown Development, a City Planning document dated May 1981. Guidelines applicable to the proposed project deal with truck loading requirements, housing and industry. Eight truck loading spaces would be required, as well as 650 housing units. If the Planning Code were revised to make primary office and residential uses conditional uses in the C-M and M-1 and M-2 districts, the project site would have to meet certain criteria: the site is not likely to be marketed for industrial use; office or residential use will not be incompatible with industrial uses on adjacent properties; and the office use will be of a service nature to the downtown.

II. PROJECT DESCRIPTION

A. LOCATION

Marathon Development California, Inc. proposes to construct an office complex on part of Assessor's Block 3749, lots 25 and 51, bounded generally by Second, Folsom, Essex, and Harrison Streets (Figures 1, 2 and 3, pages 11, 12 and 13).The proposed project consists of 2 mid-rise office buildings on a 136,000-square foot site. The northernmost building (Building A) would be located entirely on lot 25, while the second building (Building B) would be located partly on lot 25 and partly on lot 51.

B. OBJECTIVES OF PROJECT SPONSOR

The proposed project is being designed for general office use by corporations which are in need of office space with large floors to house their clerical, secretarial, and administrative support staffs. The project sponsor believes that many San Francisco corporations are in need of office space with over 20,000 or more square feet per floor to house their clerical, secretarial and administrative support staffs. The project sponsor intends to market the proposed project primarily to these San Francisco firms. The proposed project would provide needed office space which is economical by using a structural system where the cost is 5-10% lower than other conventional structural systems now in use.[1] Also, the design of larger floor space provides tenants with the opportunity to furnish each floor as cost efficiently as possible, breaking up work space with movable partitions or using an "open landscape" interior. Existing office firms that are seeking to consolidate their operations in 1 building, or are planning to expand operations, would be provided with new office space that is competitively priced within the regional market.

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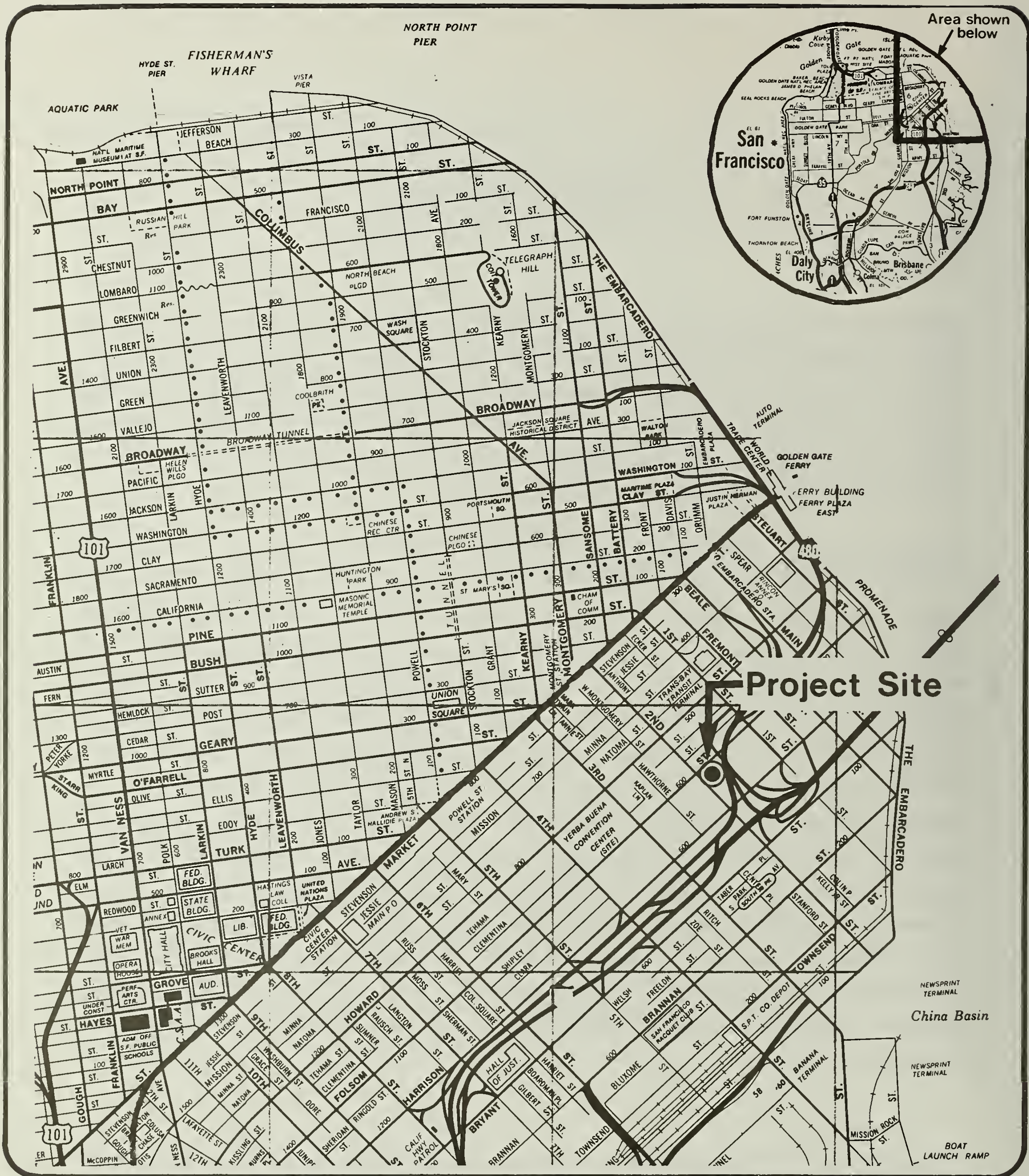
[1] The current rents for office space in downtown San Francisco are in the range of $24.00 to $35.00 per square foot on an annual basis. They are escalating at the rate of 2% per month. A conservative forecast considering current conditions would place rents in the $35.00 to $45.00 range by 1983 and, in fact, some prime locations will demand in excess of $50.00.

Ronald G. Boyer, First Vice President, Coldwell Banker, remarks delivered at San Francisco '81: A Coldwell Banker Real Estate Overview for Business, the Bohemian Club, San Francisco, 15 January 1981.



Site Location Map

North

0 500 1000 2000

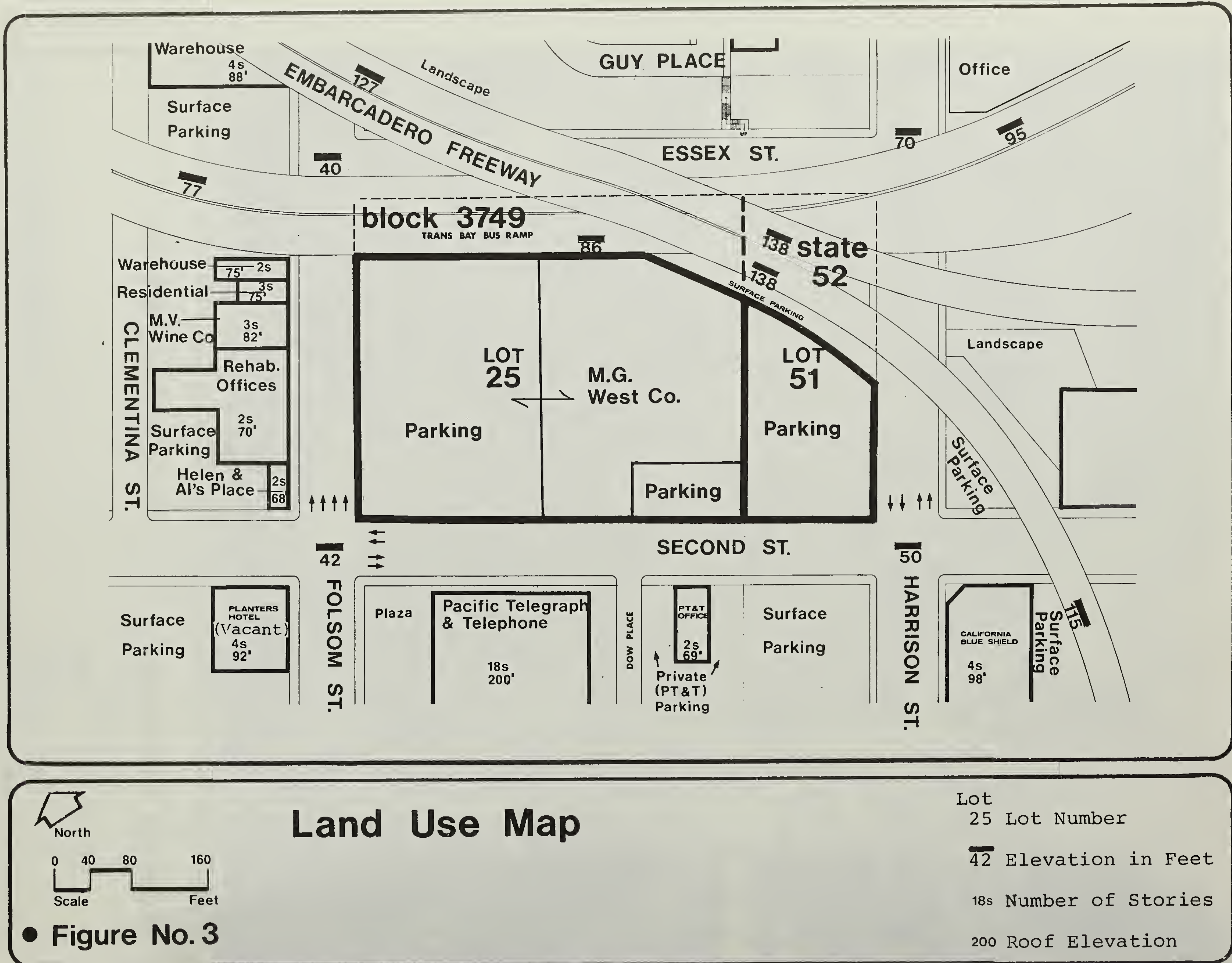
Scale Feet

SECOND and FOLSOM PROJECT

Figure No. 1

Aerial Photograph of Project Area

Figure No. 2



Land Use Map

• Figure No. 3

C. PROJECT DESCRIPTION

Building A would be a 12-story 130-foot-high structure with a gross floor area of 403,000 square feet (Figure 4, page 15). Building B would be an 11-story, 105 foot-high structure with a gross floor area of 351,000 square feet. The 2 buildings would have a combined gross floor area of 754,000 square feet and an FAR of 5.23 to 1.

The proposed project would have approximately 592,000 square feet of occupied floor area including 26,000 square feet of ground floor commercial space and 566,000 square feet of office space (see Figures 5 and 6, pages 16 and 17). Ground-level commercial space would include retail shops and/or offices such as a drug store, travel agency, bank, flower shop, jewelry store, shoe repair, title insurance company, restaurant, clothing boutique, or book store. Floors above the ground level would be devoted to office use. Mechanical equipment would occupy about one-half the floor area on the top occupied floor of each building, as well as a rooftop penthouse on each building (see Figures 7 and 8, page 18, and 19).[1]

The proposed office complex would face onto an 18,000-square foot central courtyard between the 2 buildings (see Figures 9 and 10, pages 20 and 21); pedestrian access to the courtyard would occur via Second Street, and via arcades at the ground levels of both buildings. Pedestrian access to Building A would occur primarily at the corner of Second and Folsom Streets (see Figure 11, page 22), while pedestrian access to Building B would occur primarily through the courtyard. The 2 buildings would be connected at lower levels by covered pedestrian walkways (see Figure 9, page 20). Figure 12, page 23, shows sample upper level floor plans. Figures 13, 14, and 15, pages 24, 25, and 26 show additional perspective views of the proposed project.

Off-street parking and loading for the proposed project would be located behind both office buildings, adjacent to the Bay Bridge bus ramps and the elevated freeway. Three hundred fifty-eight parking spaces, 4 truck loading areas, and 4 van loading areas would be provided (see Figures 5 and 6, pages 16 and 17).

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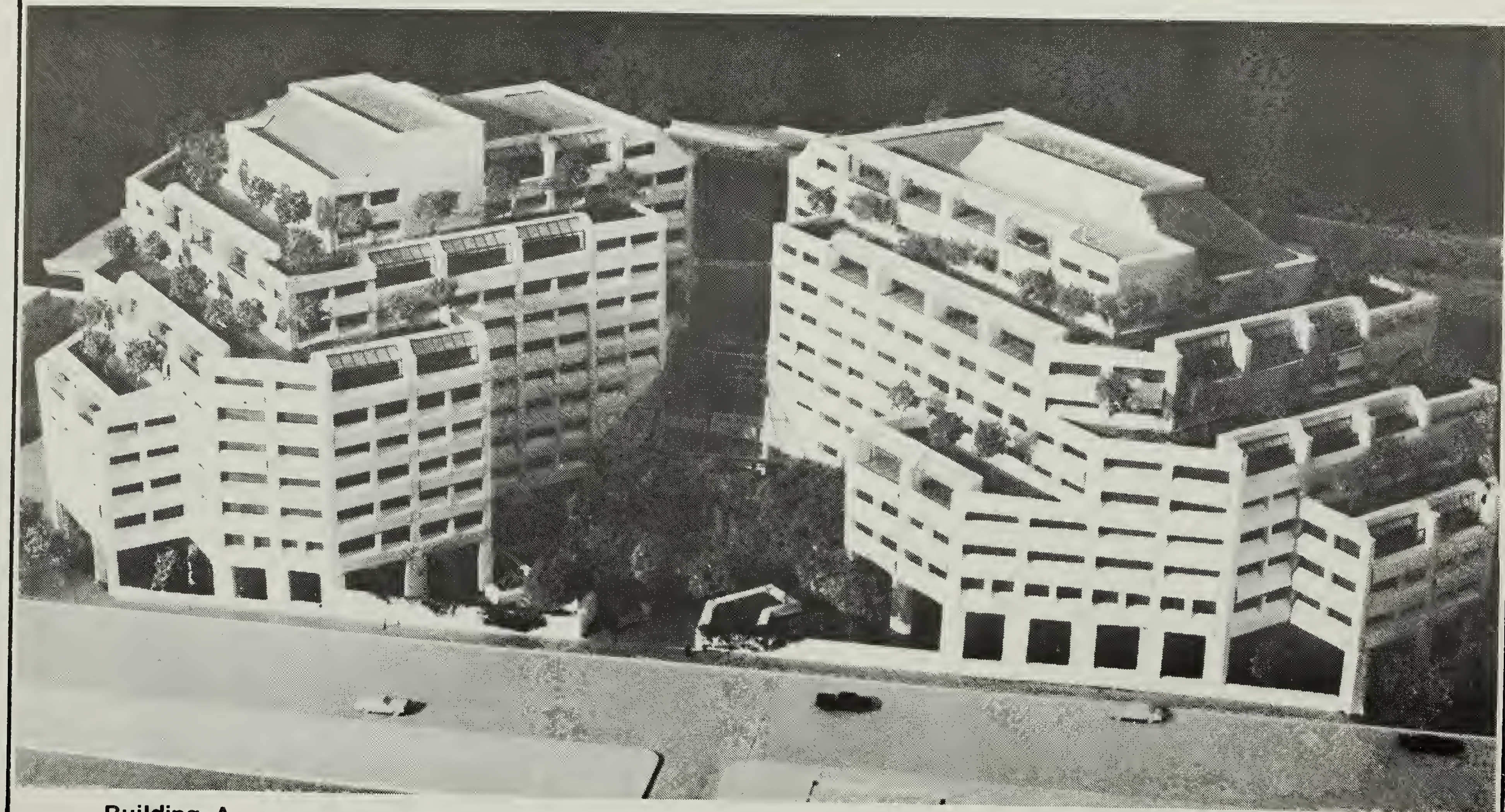
[1]Such mechanical penthouses are not included in the City's legal definition of building height (Planning Code Section 260(b)1(B)).



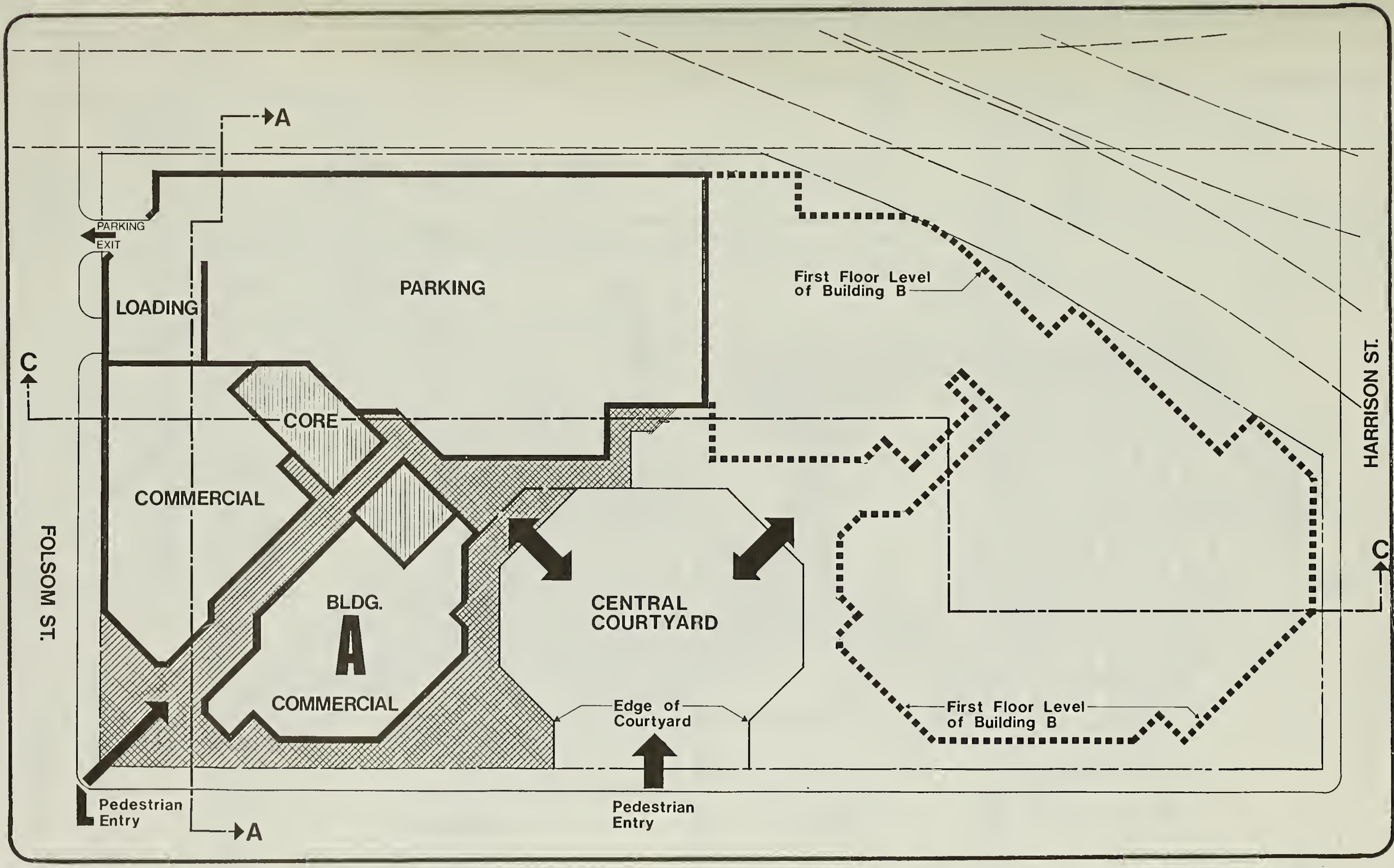
Building A

Building B

Project Model as Viewed from Second Street

Figure No. 4

NOTE: Wall along Second Street would be built as a metal railing.



North

0 20 40 80

Scale Feet

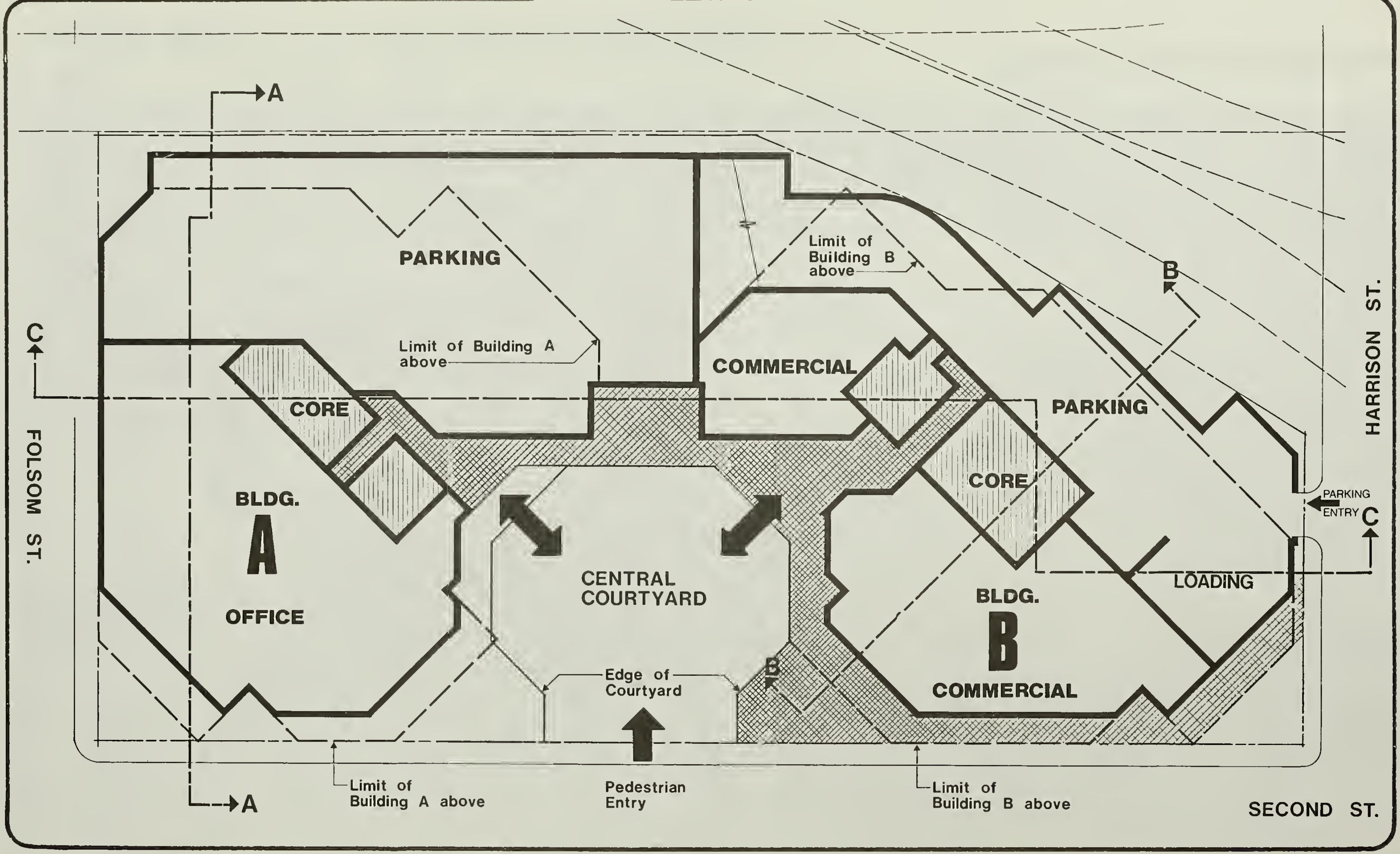
Site Plan: Ground Level

Figure No. 5

NOTE:
For Section A-A see Figure 7
For Section C-C see Figure 8

Core Area

Public Circulation



Site Plan: First Floor Level

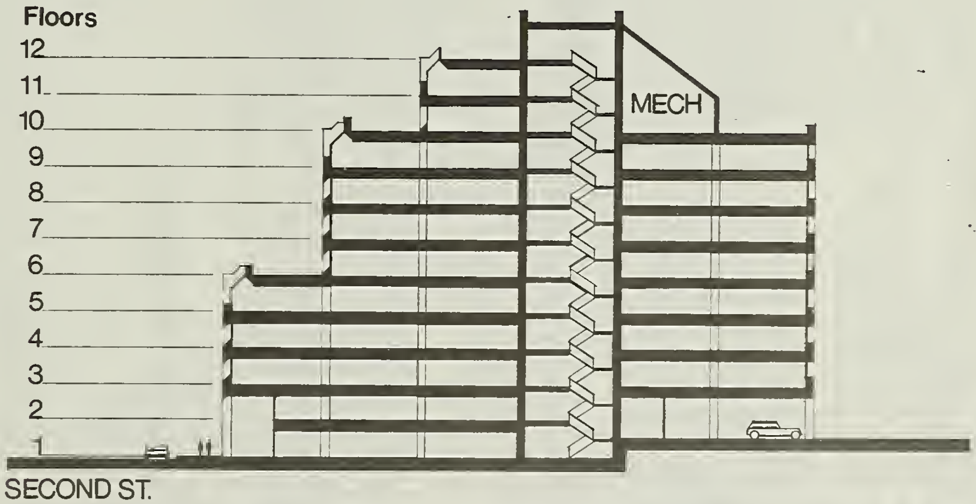
Core Area

Public Circulation

NOTE:
For Sections A-A and B-B see Figure 7
For Section C-C see Figure 8

Figure No. 6

Section A - A



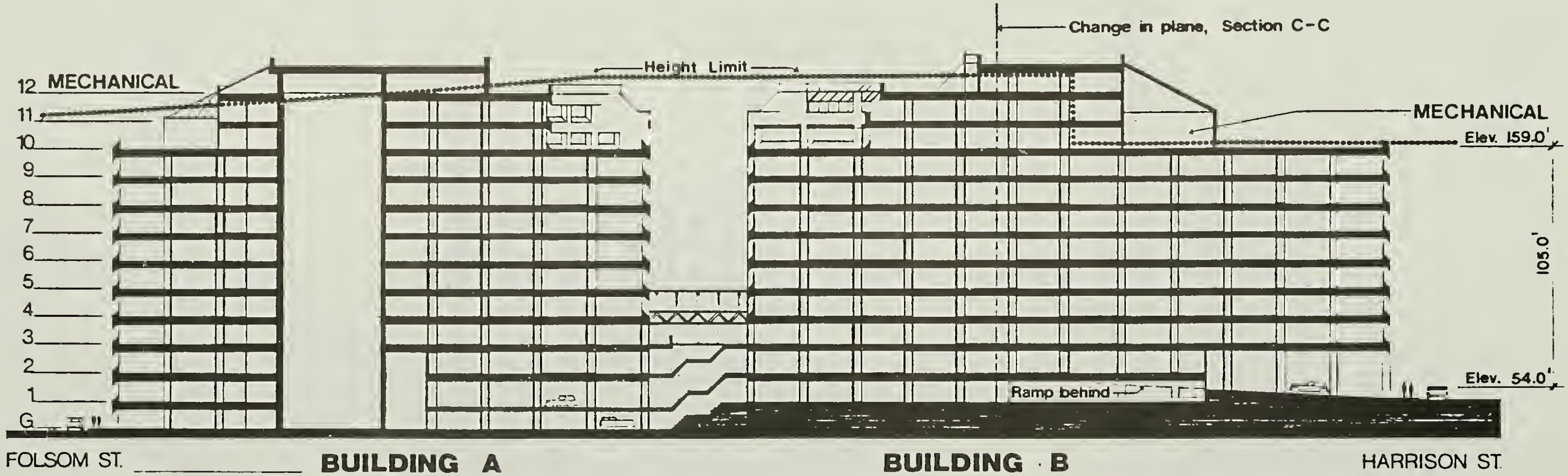
Section B - B

Building Cross Sections

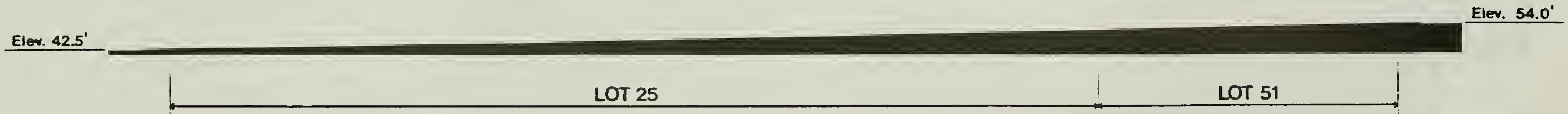
0 20 40 80

Scale Feet

Figure No. 7



Section C-C



Existing Topographic Section

Section C-C

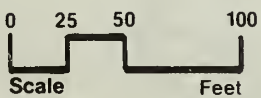
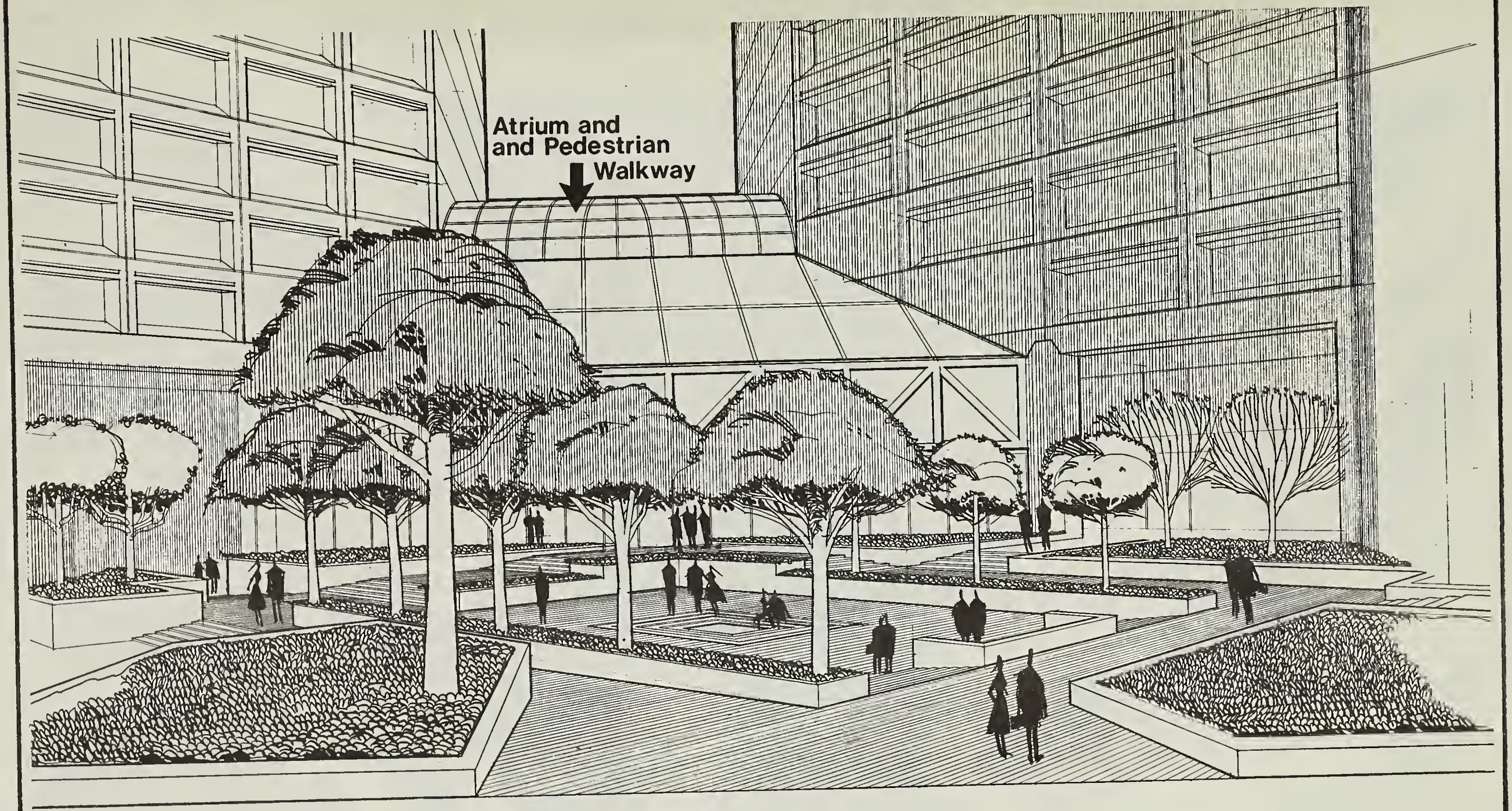
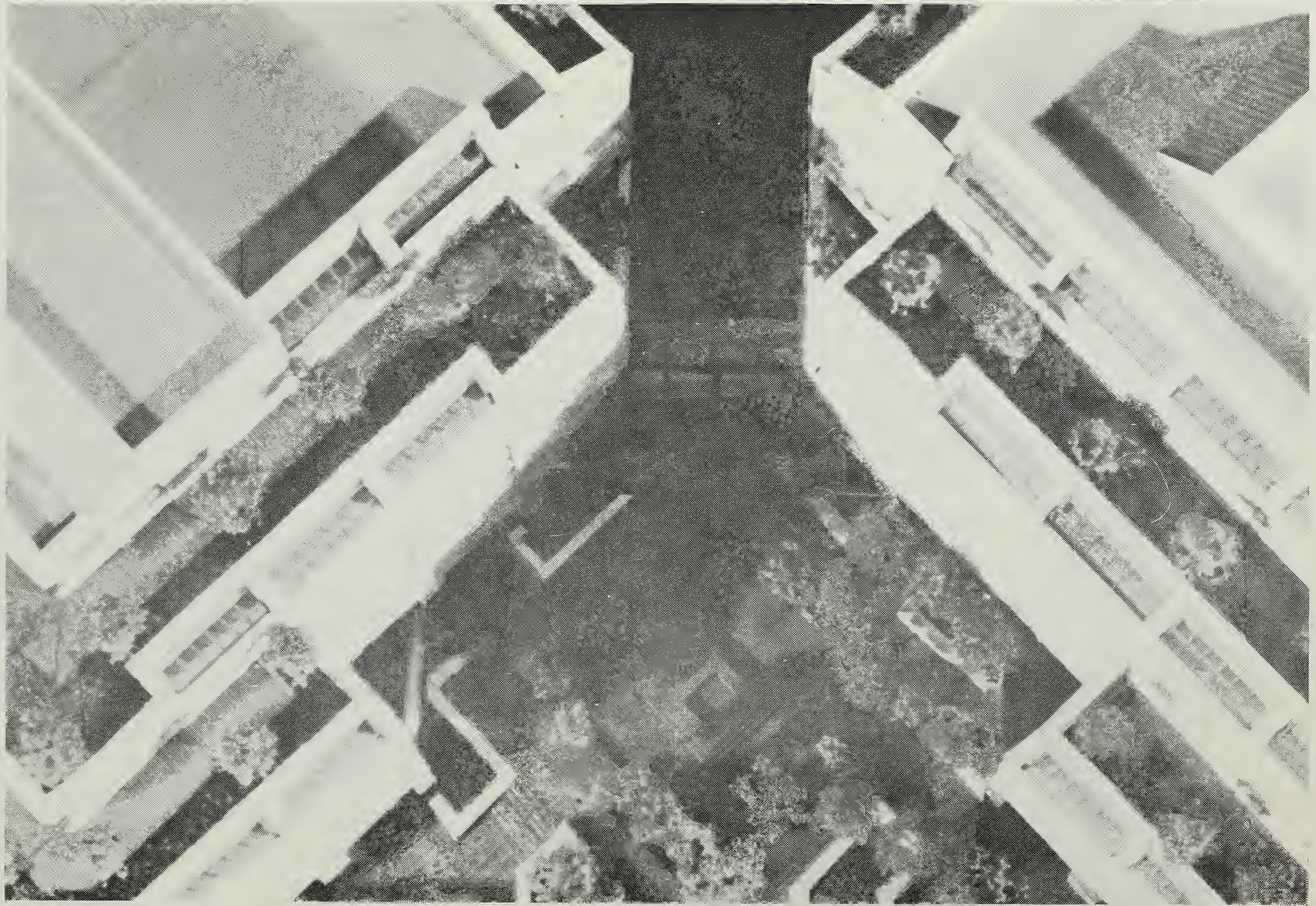


Figure No. 8



Perspective Drawing of Central Courtyard, as viewed from Second Street

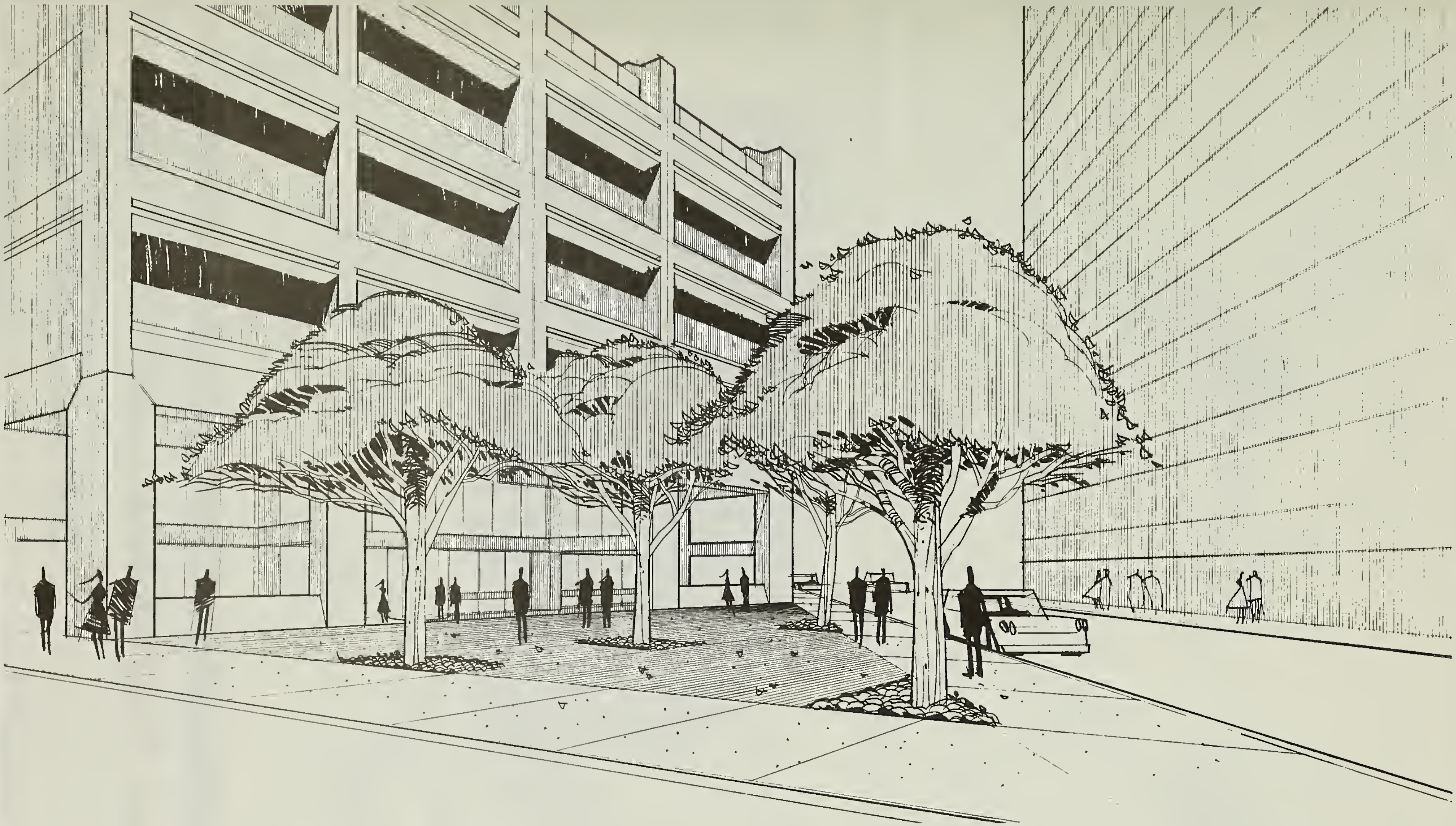
Figure No. 9



North

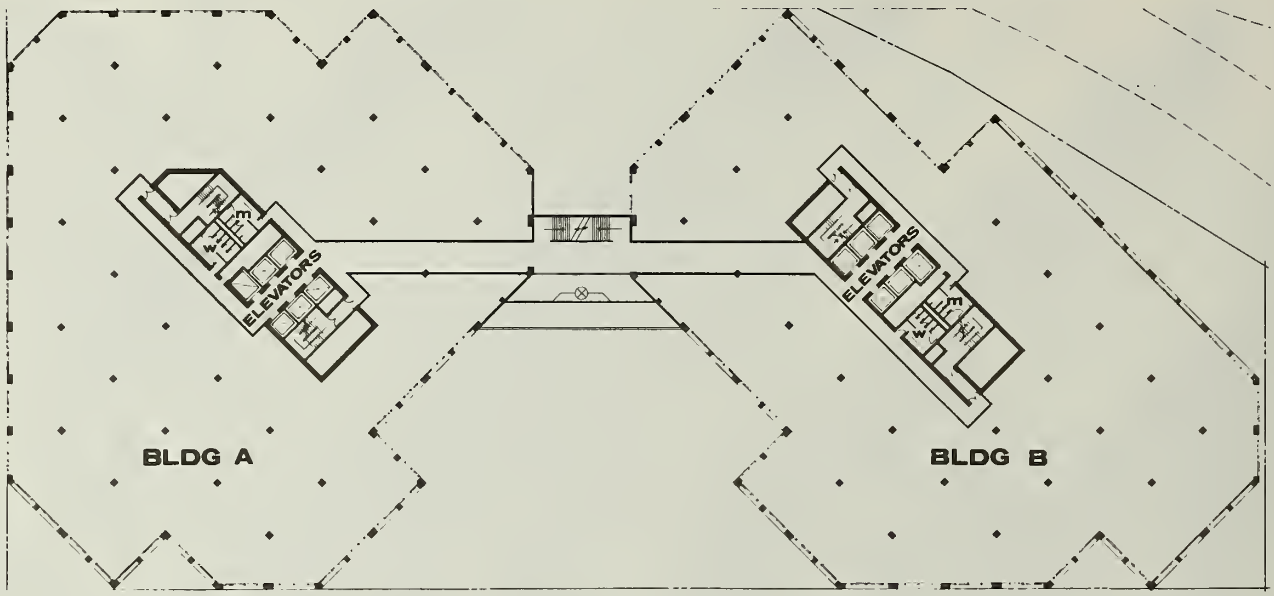
Figure No. 10

Model of Central Courtyard

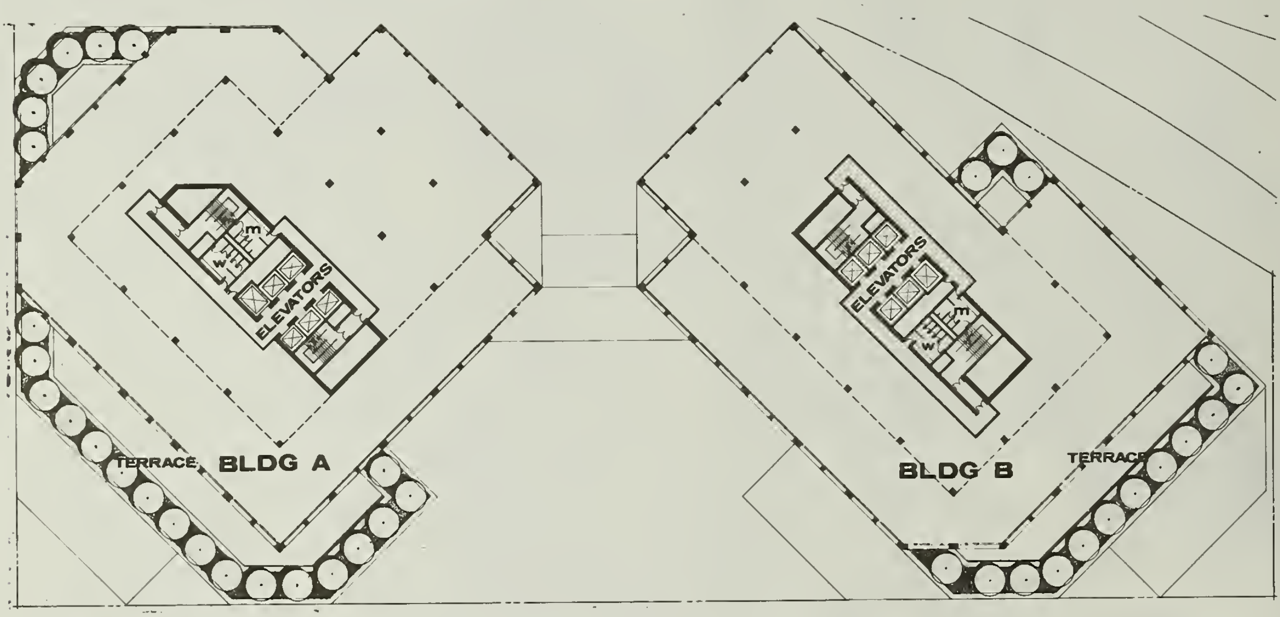


Perspective View of Proposed Project From Corner of Second and Folsom Streets

Figure No. 11



Level 3



Level 8

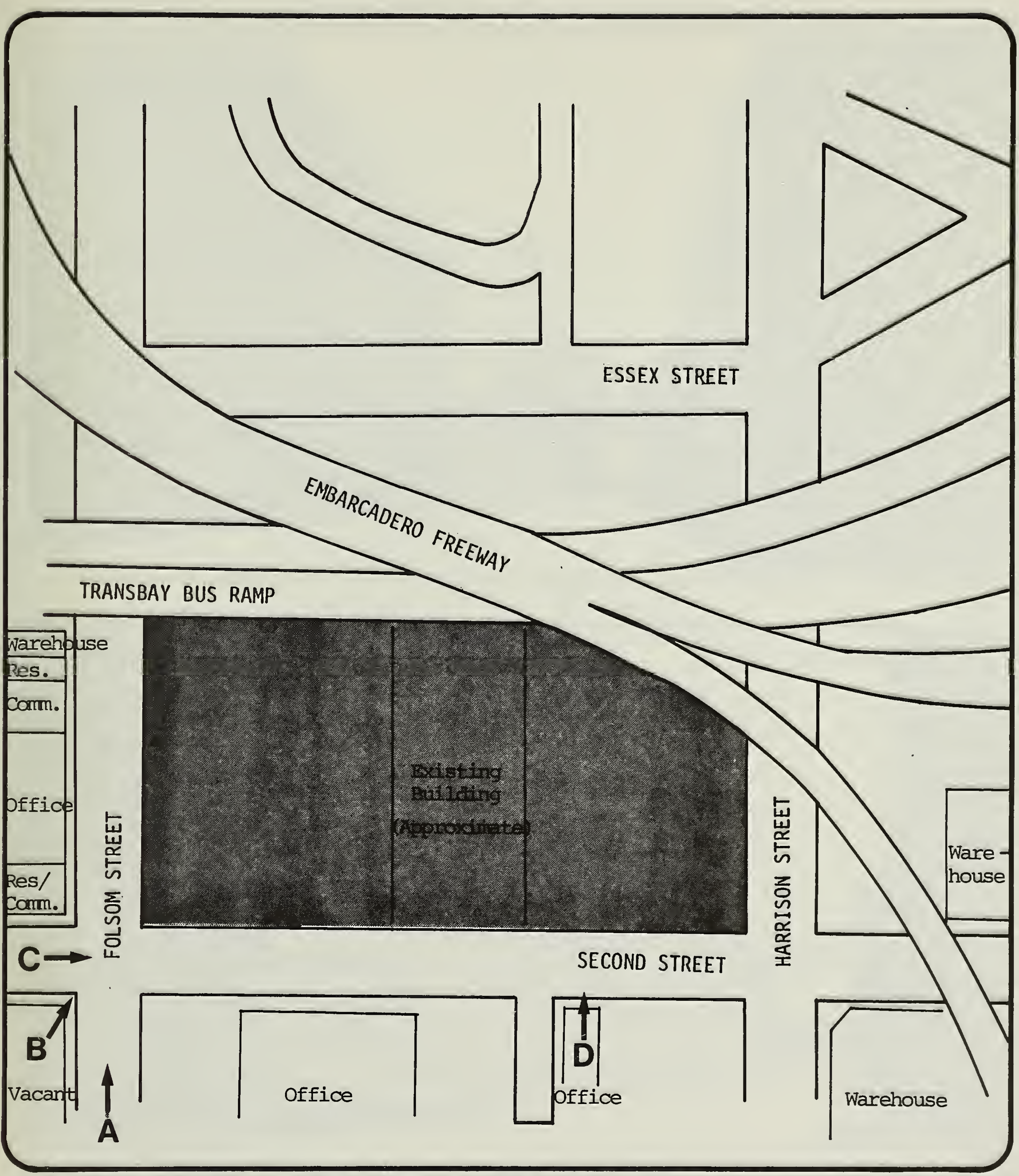
Upper Level Floor Plans

North

0 30 60 120

Scale Feet

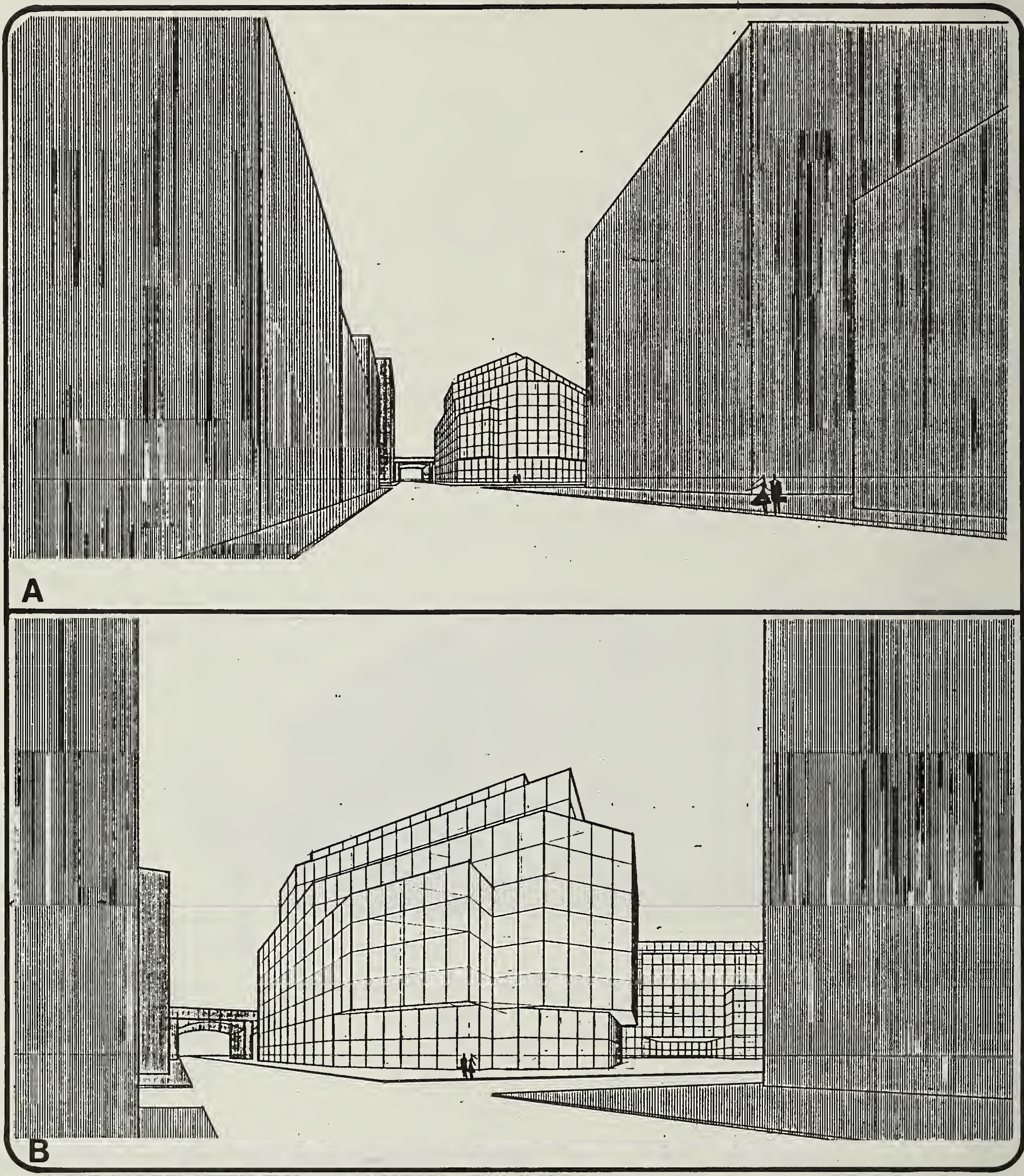
Figure No. 12



Perspective Viewing Locations

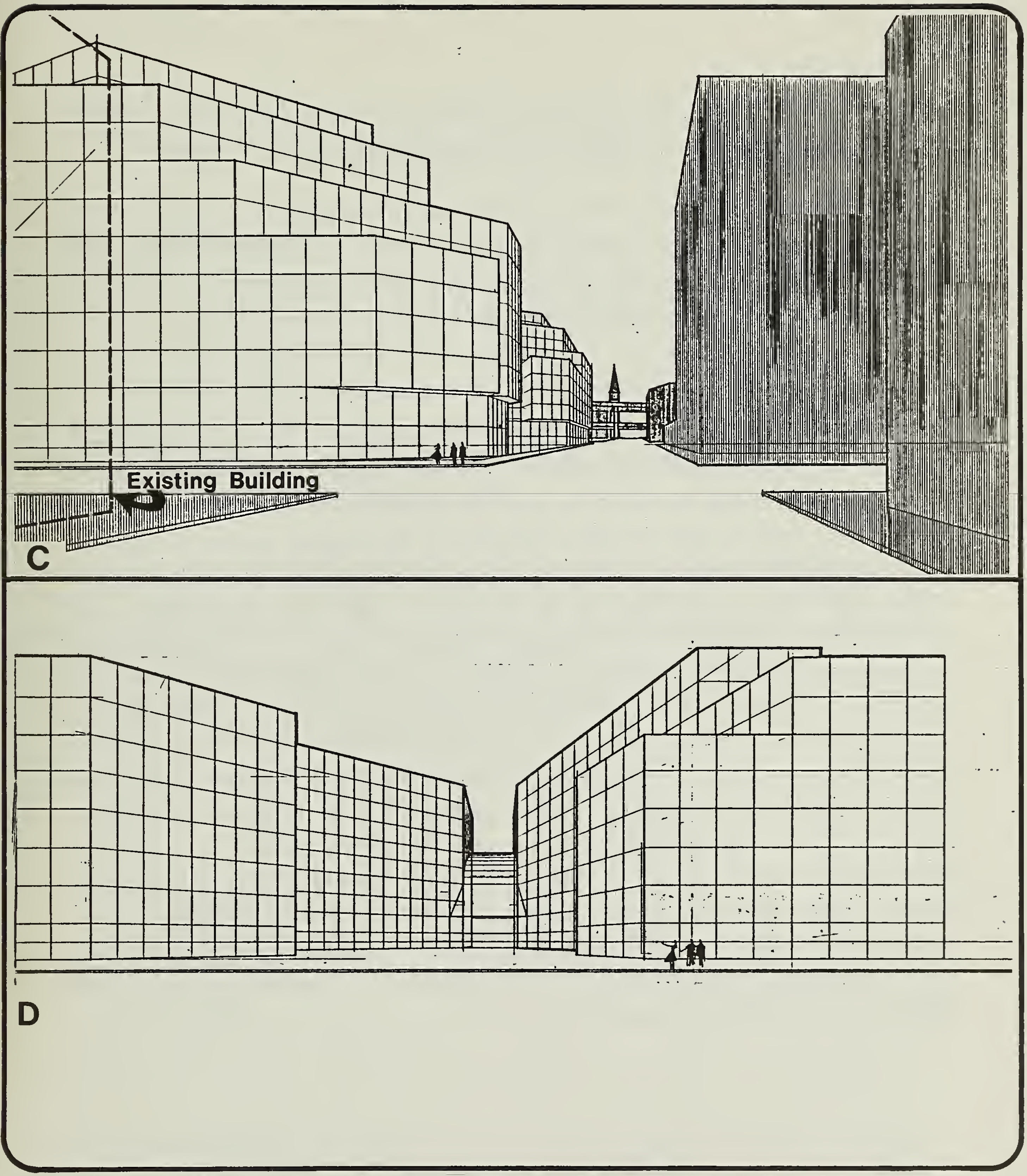
A → Location and Line of Sight

• Figure No. 13



Perspective Views of Proposed Project
See Figure 13 for orientation

● Figure No. 14



Perspective Views of Proposed Project

See Figure 13 for orientation

• Figure No. 15

The project sponsor would have the utilities for each floor metered separately to promote energy conservation and to allow proper monitoring of energy use by the tenants.

The project sponsor estimates that construction would cost approximately $50 million. Construction would begin upon project approval and would take approximately 2 years. Assuming receipt of approvals by March 1982, occupancy would be planned for March 1984. Architects for the project are Bolles Associates of San Francisco.

D. REQUIRED APPROVALS

The proposed project would require conditional use approval as a planned unit development. Conditional use approval would be required for increased floor area (FAR 5.23 to 1 instead of 5 to 1) (see Section IV.B., page 54), exceptions to the bulk provisions (see Section IV.B., Table 5, page 56) and a reduction in the required number of off-street parking spaces (358 instead of 1,196) (see Section IV.E.4, page 77). Pursuant to sections 303 and 304 of the San Francisco Planning Code, a development must meet certain criteria before a Conditional Use PUD permit may be granted. These criteria include requirements that the development be compatible with the neighborhood and not detrimental to the health, safety, convenience and general welfare of people living or working in the area. Specific criteria for Planned Unit Developments include: that the parcel include an area of at least one-half acre; that the property be either under common ownership or the subject of a single application by all owners; that the project affirmatively promote objectives and policies of the City's Comprehensive Plan; that the project provide adequate off-street parking and open space usable by project occupants and, where appropriate, by the public; that the density allowed not be equivalent to a zoning reclassification; and that no exemptions from height limits be authorized other than those allowed in the Planning Code. Table 4, page 55, illustrates how the proposed project would meet PUD requirements.

III. ENVIRONMENTAL SETTING

A. LAND USE AND ZONING

● The project site is located in an M-1 (Light Industrial) District adjacent to the C-3-S (Downtown Support) District (see Figure 16, page 29). The C-3-S District exists primarily to accommodate near the intensive downtown core areas important supporting functions such as wholesaling, printing, building services and parking. Uses permitted in M-1 Districts include professional and business offices, retail business or personal service establishments, automotive sales and services, repair garages, parking lots and buildings, wholesaling, and storage and light manufacturing.

The basic floor area ratio (FAR) applicable to the M-1 District is 5:1; any building on the site may contain a gross floor area of up to 5 times the area for the lot. In an M-1 Zoning District, a floor area premium of 25% for that portion of a lot falling within 125 feet of the corner (i.e., Second and Folsom, and Second and Harrison) may be added to the site area for the purpose of calculating the allowable gross floor area for the site[1] which would then be 721,270 square feet (see Table 1).

TABLE 1

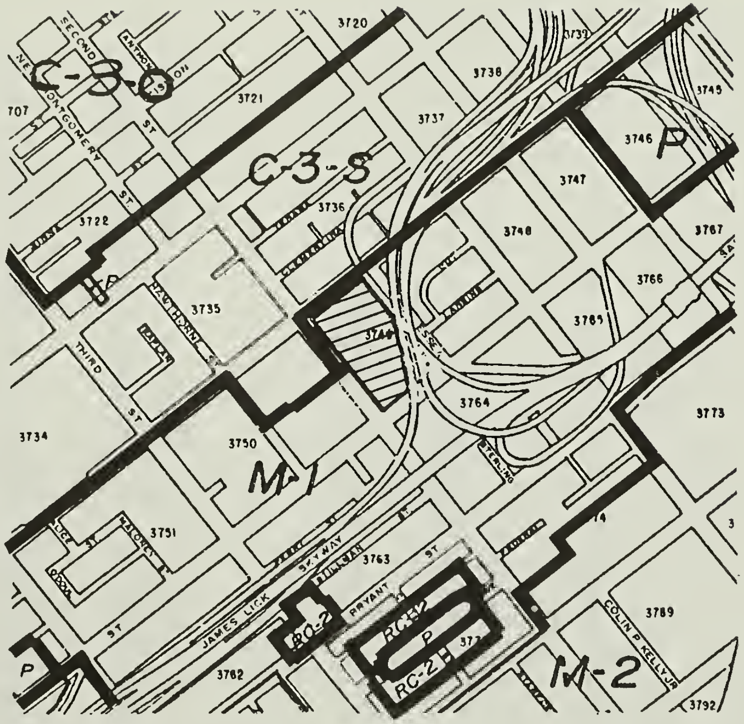
Floor Area Calculations

136,442	sq. ft.	-	Site Area
7,812	sq. ft.*	-	Corner Area
144,254	sq. ft.	-	Lot Area for purposes of floor area computation
x 5		-	FAR 5:1
721,270	sq. ft.	-	Gross Floor area allowed

*125 ft. x 125 ft. x 2 - 4 = 7,812 sq. ft.

The height and bulk district for Lot 25 is 130-G, which allows a maximum building height of 130 feet with a maximum building length of 170 feet and a maximum diagonal

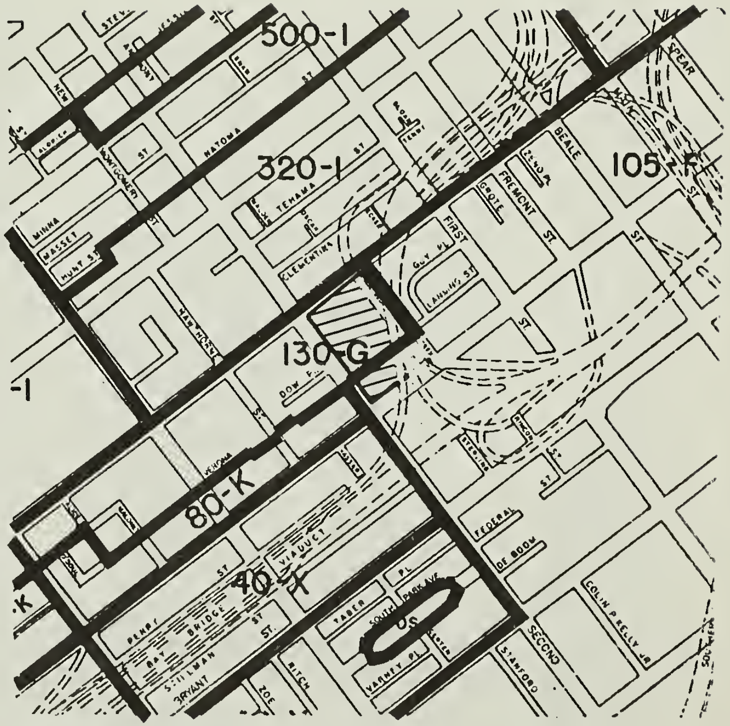
[1]City and County of San Francisco, Planning Code, Section 102.13 and 125(a), 1979 Edition.



Project Site

Zoning Districts:

C-3-0 = Commercial Districts
C-3-S = Commercial Districts
RC-2 = Residential-Commercial Combined Districts
M-1 = Industrial Districts
M-2 = Industrial Districts
P = Public Districts



Project Site

OS OPEN SPACE DISTRICT

NUMBERS ARE HEIGHT LIMITS IN FEET

LETTER SYMBOLS REFER TO BULK LIMITS IN CITY PLANNING CODE SEC. 270.

00-Z

North

0 400 800 1600
Scale Feet

Zoning/Height and Bulk Districts

Figure No. 16

dimension[1] of 200 feet above 80 feet (see Figure 11, page 22). Lot 51 of block 3749 is in height and bulk district 105-F which allows a maximum building height of 105 feet and maximum length and diagonal dimensions of, respectively, 110 feet and 140 feet above 80 feet.[1]

North of the site is the C-3-S Downtown Support District, west of the site is C-3-S and M-1, and M-1 continues to the south and east. The project area land uses are predominately parking facilities and 2-4-story commercial and industrial buildings.

The site is presently used for surface parking at the northern and southern end of the property. A 2-3 story concrete and brick structure separates the 2 parking areas. This building is used for offices, showroom, and warehouse by an office equipment leasing and supply firm.

The elevated ramps leading to the Bay Bridge and James Lick Freeway reach a height of 86 feet and form the eastern boundary to the project site. Within a 1-block radius of the site, building heights vary from 2 stories to the 12-story PT&T Equipment Building, (see Figure 3, page 13).

- Land values in the South of Market area near Second Street have increased nearly threefold in the last five years. Prices per square foot vary, generally increasing closer to Market Street and can be influenced by such considerations as zoning (height and bulk), access to transportation/transit and the condition of existing buildings on site. Commercial land values throughout the City have increased about 400% over the last 3 years.[2]

- A recent survey of 17 commercial property transactions in the City's South of Market Study Area[3] indicated that current prices per square foot range from $25 to $109 with a mean of $58. Table 1A provides an estimate of land values near the proposed project since 1977.

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[1] City and County of San Francisco, Planning Code, Section 270, 1979 Edition.

[2] Ronald Boyer, Coldwell Banker, telephone conversation, 26 February 1982.

[3] A study area is bounded generally by The Embarcadero, Townsend Street, the Central Skyway, Mission Street (from South Van Ness to 4th Street) and Folsom Street (from 4th Street to The Embarcadero, Dean Marcris, Memo Regarding South of Market Interim Controls, 26 January 1982, page 4.

● TABLE 1A

ESTIMATED LAND VALUES IN THE BLOCKS
BOUNDED BY TOWNSEND, FOLSOM, 3rd AND 4th STREETS

YEAR	VALUES PER SQUARE FOOT
1977[1]	$20-30
1978[1]	$25-35
1979[1]	$35-45
1980[2]	$45-55
1981/82[3]	$60-90

Source:

[1]Ron Katz, Ritchie + Ritchie Corporation

[2]Howard Sheahan, Merrill Lynch Realty

[3]The range of current values represents averages of ranges reported by Jeff Schultz, Coldwell Banker; Donald Sambucci, Century 21 - Lampley Realty Inc.; Richard Maguire, Allied American Properties; Baldwin + Howell Brokerage Services; Ron Katz, Ritchie + Ritchie Corporation; Howard Sheahan, Merrill Lynch Realty, per telephone communications, 20 January 1982.

B. VISUAL QUALITY AND URBAN DESIGN

The area surrounding the project site is characterized by a variety of land uses including residential, offices, warehousing and light manufacturing (see Section III.A., Land Use, page 28).

Construction materials on building exteriors visible from the site include wood, brick, aluminum, stucco[1] and concrete. Building colors include the silver gray skin of the PT&T building on Second Street (which, because of the building's size, is a noticeable color), white, yellow, red, gray, and light tan to brown. Architectural styles range from the bay

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[1]Stucco: a material made of Portland or "hydrolic" cement, sand and lime and applied in a plastic state to form a hard covering for exterior walls.

window, Victorian design of a 2-story residential structure on Folsom Street opposite the site (Figure 18A, page 33), to the smooth skin of the windowless, rectangular-shaped PT&T building (Figure 18B, page 33). The 4-story Blue Shield building at the south corner of Second and Harrison Streets is partially oriented toward the intersection because of the building's truncated corner. The structure also retains the appearance of a warehouse due to the type and arrangement of windows and spandrels (Figure 19A, page 34).[1]

The multiple levels of freeway ramps along the east margin of the site obstruct views to the Bay, buildings to the east and a hillside with residences and warehouses (Figure 19B, page 34, and Figure 20, page 35). Views west and southwest from the site along Harrison Street encompass the lower slopes of Twin Peaks and the upper floors of the Fox Plaza building at Market and Fell Streets. The dome of City Hall may be recognized in the distance because of open parking areas and low-profile buildings between it and the site. Downtown high-rise buildings, including the Bank of America building at Kearny and California Streets, may be seen rising above nearby structures to the northwest (Figure 21, page 36).

Near Folsom Street, adjacent to the project site, high-rise buildings along Market Street and Financial District structures are more noticeable than when viewed from Harrison Street (Figure 21). This is partly due to existing structures on the site that block views to the northwest from Harrison Street. Views along Folsom Street to the northeast and southwest are more confined and directional than along Harrison Street because there is less open space, buildings touch one another at the property line, and there are fewer open parking areas. To the northeast, the overhead freeway ramps obstruct views upward, and views tend to be downward under the ramps to a portion of the Bay near Treasure Island. Views to the northwest end at Twin Peaks.

In terms of constructed elements, the elevated freeway ramps adjacent to the site are visually dominant because of their height and length. There is no visual sense of beginning or end to the ramps as they curve around the site to the east and south. The ramps, constructed of steel beams and concrete, rise above most of the adjoining buildings in the area and impart a sense of enclosure to the east portion of the site. The only trees near

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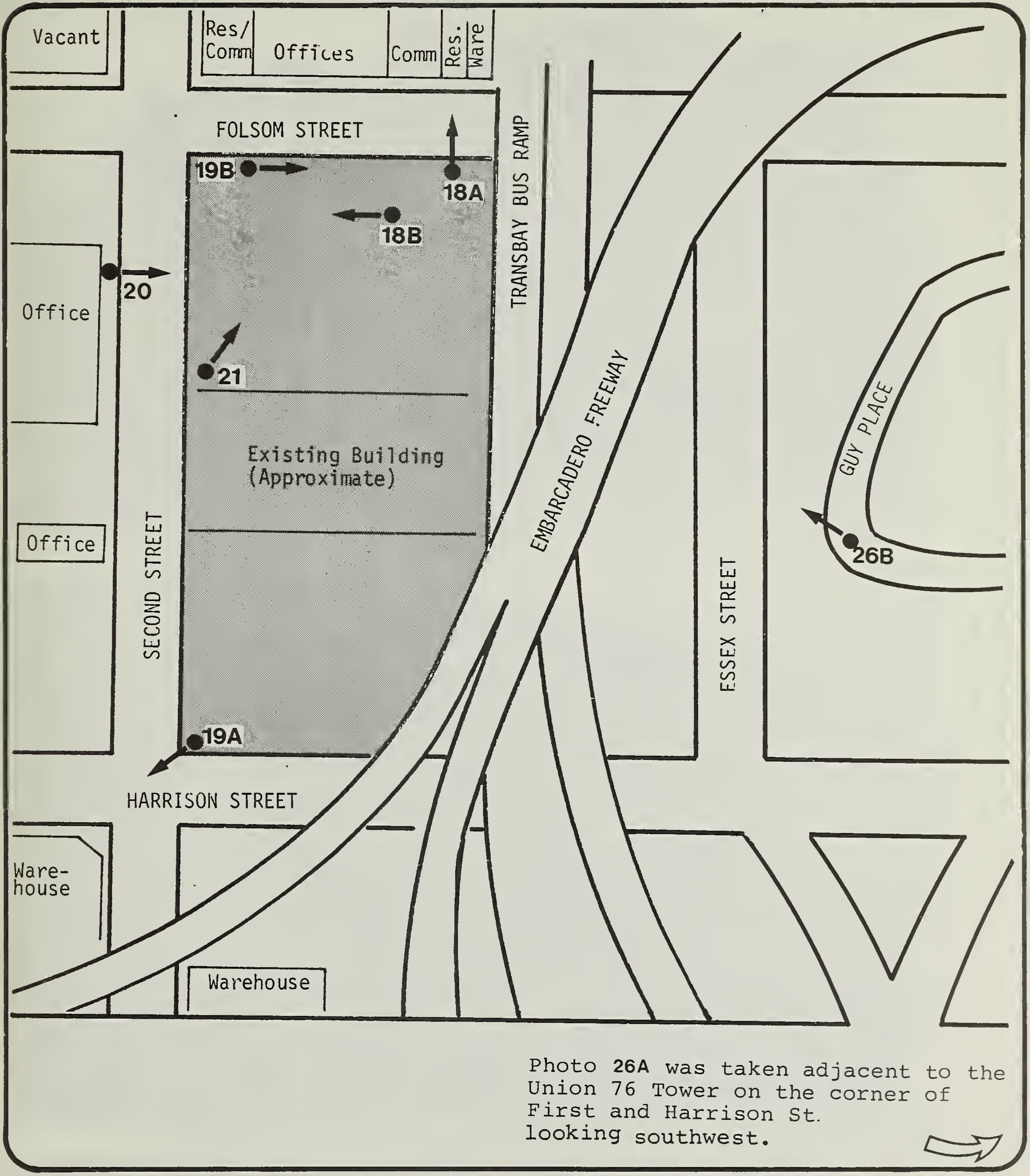
[1] Spandrel: In a multi-story building, a panel-like area between the top of a window on 1 level and the sill (base) of a window in the story above.



Project Area Photograph Locations

North

Not to Scale

12 — Location and Line of Sight

Figure No.17

A Low-rise structures on Folsom St. opposite project site.

B P.T. & T. building opposite project site on Second St.

Project Area Photographs

See Figure 17 for photograph orientation.

Figure No. 18

A Blue Shield building, southwest corner of Harrison and Second Streets.

B View east along Harrison Street adjacent project site.

Project Area Photographs

See Figure 17 for photograph orientation.

• Figure No. 19

View across Second Street from PT&T Building

Project Area Photograph

See Figure 17 for photograph orientation

Figure No. 20

View north toward Financial District from project site.

Project Area Photograph
See Figure 17 for photograph orientation.

Figure No. 21

the project site are the sycamore trees along the curb of Second and Folsom Streets by the PT&T building.

C. POPULATION, EMPLOYMENT AND HOUSING

The project area has a low permanent population with most residents living in residential hotels.

There are approximately 280,000 office workers currently employed in the 60.5 million square feet of office space in San Francisco. The Association of Bay Area Governments[1] projects that employment in San Francisco offices will increase by 5,000 jobs per year between 1980 and 1985. An additional 1.25 million square feet of office space would be required yearly to accommodate this anticipated increase in potential employment.[2]

Approximately 320,000 housing units currently exist in San Francisco,[3] of which approximately 13% are single-family detached structures. Approximately two-thirds of the total San Francisco housing stock is rented, although new housing is predominantly purchase housing.[4] The rental vacancy rate is estimated at 3% or less. The vacancy rates for single-family and multiple-family homes are estimated at 1.0% and 0.8%, respectively.[5]

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[1] Association of Bay Area Governments, San Francisco Bay Area Economic Profile, December 1979, as cited in Department of City Planning FEIR 101 Montgomery Street EE80.26, Certified 7 May 1981.

[2] Association of Bay Area Governments, San Francisco Bay Area Economic Profile, December 1979, as cited in Department of City Planning FEIR 101 Montgomery Street EE80.26, Certified 7 May 1981.

[3] Eva Liang Levine, Planner, Department of City Planning, telephone conversation, 11 March 1981.

[4] San Francisco Department of City Planning, FEIR Five Fremont Center, EE 80.268, March 1981.

[5] Dennis Jones, Public Information Officer, Federal Home Loan Bank of San Francisco, based on the San Francisco Housing Vacancy Survey, conducted by the U.S. Postal Service and the Federal Home Loan Bank Board in September of 1980 and published in July 1981, telephone conversations, 11 March 1981 and 12 August 1981.

San Francisco's housing stock is characterized by low growth, low vacancy rates, and high purchase and rental costs in relation to typical local wages. The supply and affordability of available housing is restricted by these characteristics.[1] San Francisco, as a managerial center, has a higher than average number of employees with salaries high enough to afford the price of houses in San Francisco.

Increased housing costs in San Francisco correspond to the increase in employment relative to housing stock increase (i.e., employment grew 6 times as fast as the San Francisco housing stock between 1975 and 1980). The demand for housing in San Francisco relative to its population is primarily due to: people who are employed in the City and want to reside near their place of employment, a decrease in the number of dependents per household, and to the number of unrelated people who are willing to pool incomes to share housing. Other factors, such as an increase in the number of households, costs of building houses, and real estate investor purchasers also contribute to a tight housing market.

The effects of high housing costs are most dramatic for low-income groups, particularly the elderly and female-head households. Some low-income households are priced out of the market and are forced to relocate. The average market value of a house in the Bay Area was $140,000 as of April 1981. From October 1975 to October 1980, the average price of a home increased 155% in the Bay Area, reflecting an average annual compounded growth rate increase of 21%. Rates of increase were highest in San Francisco (22.5%), above average along the Peninsula, lowest in the East Bay and similar to the regional average in the North Bay.[1]

The job/housing imbalance in San Francisco in 1975 was estimated by the Association of Bay Area Governments to be about 1.65 to 1 (the ratio of the number of jobs to housing units). The ABAG projections indicate an increase of this ratio in the year 2000 to 1.92 to 1.[2] Thus, the demand for housing is likely to increase.

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[1]Recht Hausrath and Associates, "Commercial Space, Employment, Housing and Fiscal Factors," for EIP Corporation, August 1981.

[2]Association of Bay Area Governments, Projection 79: Population, Employment, Housing 1980-2000, pages II-7, 10 January 1980.

The City was directed by an electoral mandate (Proposition K, November 1980) to establish policy to add 20,000 new housing units in San Francisco by 1 January 1985.[1] On 9 April 1981, Mayor Dianne Feinstein issued a housing policy statement (see Appendix B, page A-35) intended to promote the construction of 21,000 additional units of housing in San Francisco over the next decade. Her program consists of 4 basic elements: coupling housing development with office growth; identifying specific sites where new housing could be built without disturbing existing residential areas or displacing many jobs; creating a new financing mechanism to provide low interest home mortgages; and pursuing legalization and expansion of secondary units.

D. TRANSPORTATION

1. Street System

As shown in Figure 22, page 40, the project site generally has freeway accessibility to/from the East Bay and Peninsula. The most direct freeway access is at the I-80 on-and off-ramps along Harrison and Bryant Streets. These ramps provide travel links to/from the Peninsula and East Bay. Another off-ramp from the East Bay is along Fremont Street. Peninsula access includes the I-280 ramps on Third Street. Automobile accessibility to/from the north Bay is less direct and therefore subject to a more dispersed travel pattern. The most probable routes for north Bay travel are via The Embarcadero (to Broadway, Bay, etc.) or via Interstate 80 or surface streets to the U.S. Highway 101 corridor (Van Ness, Franklin, etc.).

The local street network (shown on Figure 22) is characterized by the major east/west routes of Howard, Folsom, Harrison and Bryant Streets and the major north/south access routes of Fremont, First, Second and Third and Fourth Streets. The Transportation Element of the San Francisco Comprehensive Plan designates the foregoing streets (with the exception of Harrison) as Major Thoroughfares in the project area.[2]

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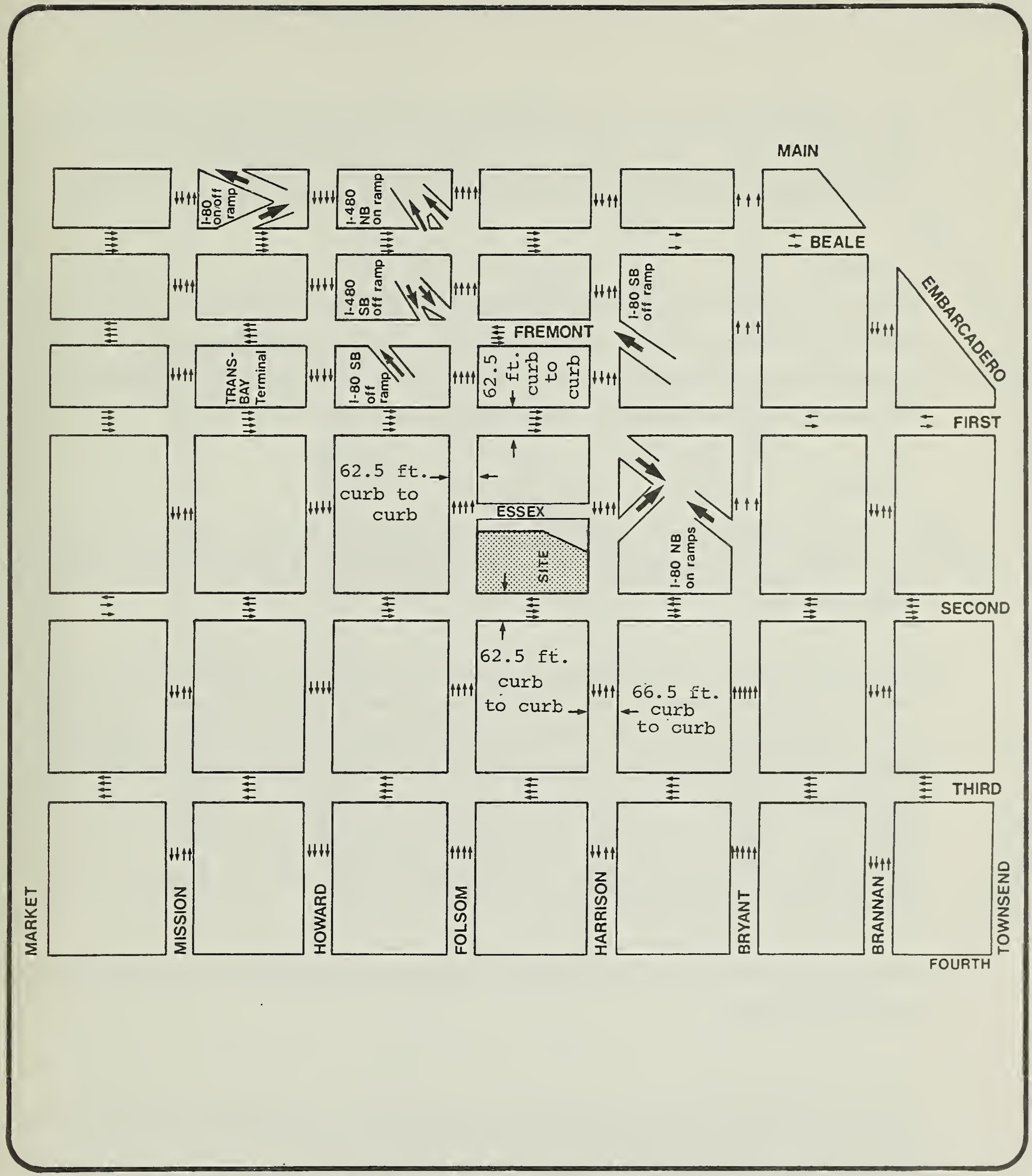
[1] City and County of San Francisco, Proposition K, 4 November 1980.

[2] Major Thoroughfare is defined as a cross-town street whose primary function is to link districts within the City and to distribute traffic from and to the freeways; a route generally of city-wide significance, as defined in the Thoroughfare Plan of the Transportation Element of the San Francisco Comprehensive Plan.



Traffic Network

Number and Direction of Traffic Lanes

Freeway Ramp Direction

North

Not to Scale

• **Figure No. 22**

The Transportation Element also designates Mission, Fremont, First, Second, Third and Fourth Streets as "Transit Preferential Streets" in the project area. By definition, priority is given to transit vehicles over automobiles on these streets.

2. Transit

Transit routes in the vicinity of the project site are shown on Figure 23, page 42. Local service is provided by the San Francisco Municipal Railway (Muni) (see Table 2, page 43) and regional service is available via BART, A.C. Transit (AC), Golden Gate Transit (GGT), San Mateo County Transit (SamTrans), Greyhound, and Southern Pacific (SP).

3. Parking

- The proposed project site is 1½ blocks south of the Downtown Core Automobile Control Area.[1] and is across Folsom Street from a short-term parking area located under the elevated freeway.

- A parking occupancy review[2] has been compiled for the project area (bounded by Market, Townsend, Main and Fourth Streets and The Embarcadero). Within this area, 8,290 public spaces are available in 66 off-street parking facilities (see Figure 24, page 45). The average occupancy (during the midday) for the various facilities is approximately 7,046 spaces (85%). With the Yerba Buena Center and other proposed projects, the available parking supply would be reduced by 1,500 which cold result in inadequate parking facilities being available. Figure 24, page 45, depicts parking facilities which would be displaced by development within the area surveyed.

There are no on-street truck loading zones adjacent to the project site on Second, Folsom and Harrison Streets.

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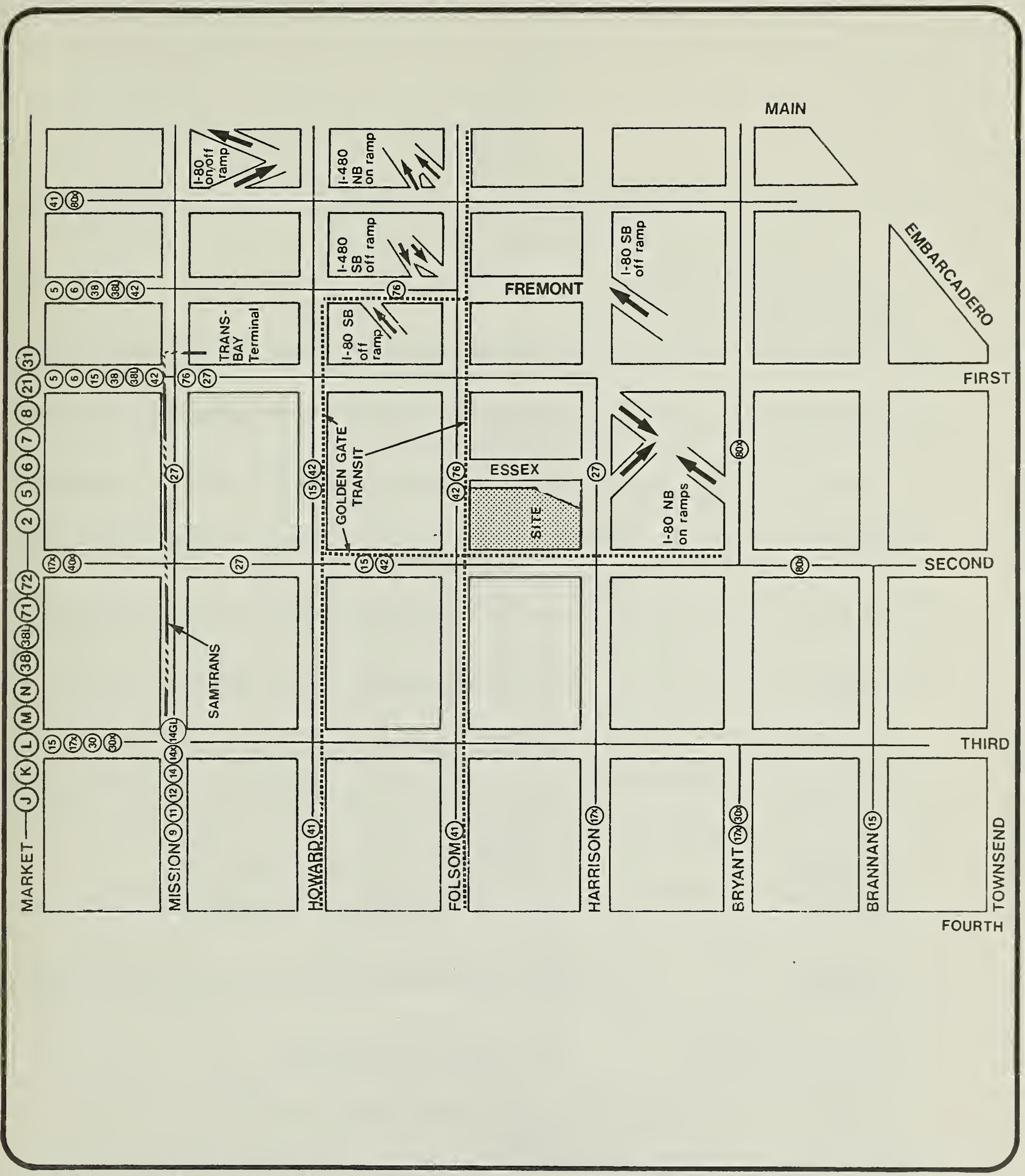
[1] City and County of San Francisco, "Revisions to the Transportation Element of the Master Plan Regarding Parking", 20 January 1977.

[2] Field observations conducted by EIP Corporation on Wednesday, 13 January 1982.



Transit Routes

Freeway Ramp Direction

(15) Muni Route

Golden Gate Transit Route

Samtrans Route

North

Not to Scale

• Figure No. 23

TABLE 2

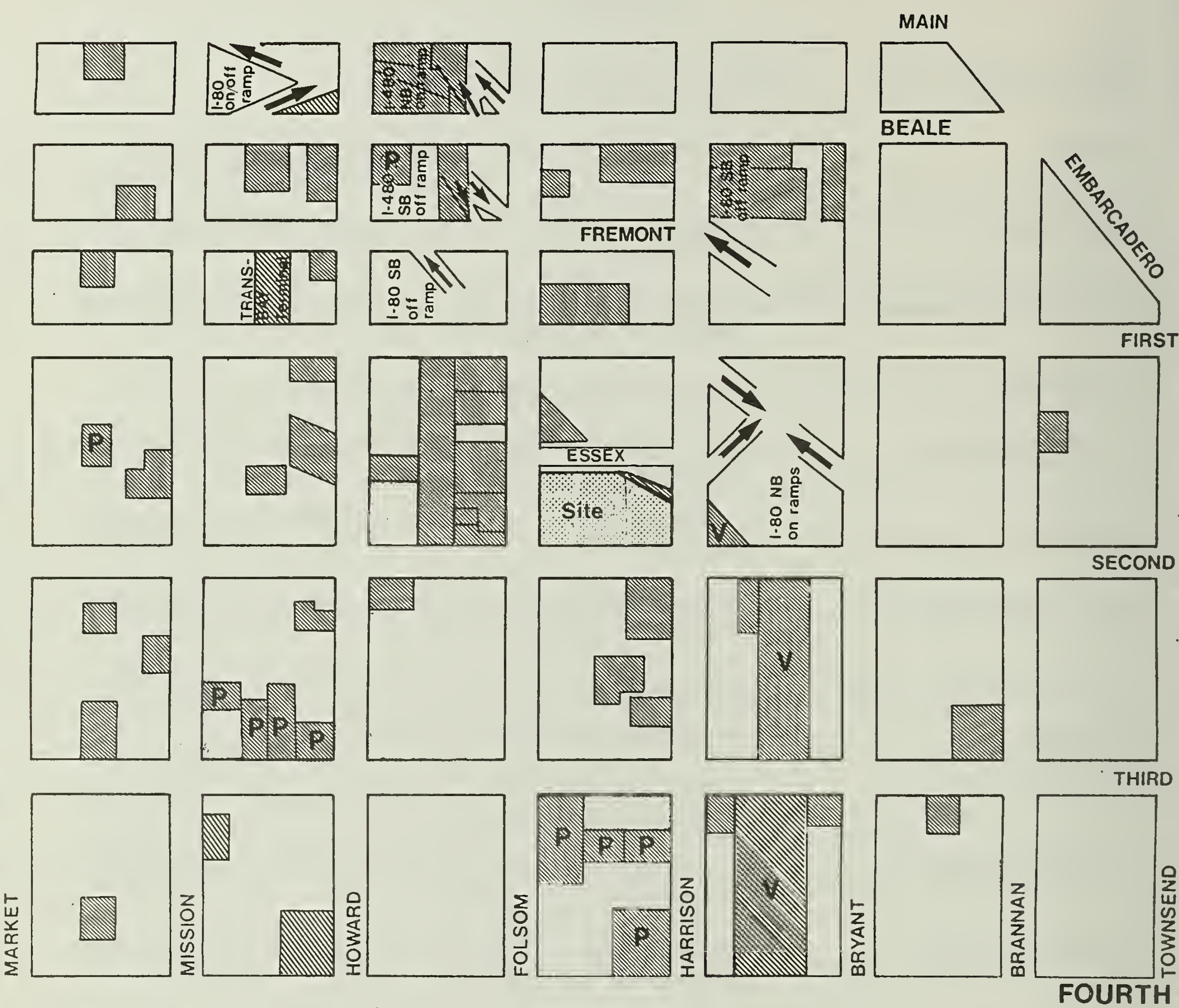
● Summary of Muni Routes Within 2,000 Feet (2-3 blocks) of Site

ROUTE DESIGNATION	
1 - California	Links Downtown with Western Addition and Richmond District
2 - clement	Links Downtown with Western Addition and Richmond District
3 - Jackson	Links Downtown with Pacific Heights and Western Addition
5 - Fulton	Links Downtown (and Transbay Terminal) with Richmond District
6 - Parnassus	Links Downtown (and Transbay Terminal) with Sunset District
7 - Haight	Links Downtown with Haight-Ashbury District, weekdays only
8 - Market	Links Downtown with Castro/Market area
9 - Richland	Links Downtown with Mission and Bernal Heights, weekdays only
11 - Hoffman	Links Downtown with Upper Market area
12 - Ocean	Links Downtown with outer Mission and City College areas
14 - Mission	Links Downtown with Mission, outer Mission and Daly City
14GL & 14X - Mission*	Links Downtown with outer Mission and Daly City, express and limited-stop only
15 - Third	Links Fisherman's Wharf, Downtown, Bayview and City College
17X - Park Merced Express	Freeway express service to Downtown From Park Merced area
21 - Hayes	Links Downtown with Richmond District

TABLE 2
(continued)

ROUTE DESIGNATION	
27 - Noe	Links Downtown with Mission and upper Noe Valley
30 - Stockton	Links Downtown with S.P. Depot, North Beach and Marina area
30X - Freeway Express	Freeway express service linking Downtown with McLaren Park area
31 - Balboa	Links Downtown with Richmond District
32 - Embarcadero	Links Downtown and South of Market with Aquatic Park, day time only
38 - Geary	Links Downtown with Western Addition and Richmond District
38L - Geary Limited	Express and limited-stop service linking Downtown with Richmond District
40X - Commuter*	Links Downtown with S.P. Depot, commute hours only
41 - Union	Links Downtown with Western Addition
42 - Downtown Loop	Links Downtown with S.P. Depot, Civic Center and Fisherman's Wharf
71 - Haight-Noriega	Links Downtown with Haight and Sunset, weekday peak periods only
72 - Haight-Sunset	Links Downtown with Haight, Sunset and Stonestown, weekday peak periods only
80X - Gateway Express	Links Golden Gateway Center with Downtown and S.P. Depot
J,K,L,M,N Muni METRO	Light-rail service linking Downtown with upper Noe, Sunset, Parkside and Ingleside Districts

*Due to equipment shortages, these lines were deleted from service in October 1981. These deletions are temporary - the lines will return to service within 6 months. Source: Susan Chelone, Muni Planner, telephone communication, 23 October 1981.



Freeway Ramp Direction

Public Parking Lots and Garages

V = Free Van Pool Parking Available Existing on January 13, 1982

P = Proposed projects would delete and/or reduce parking facilities.

Parking Survey

Not to Scale

• Figure No. 24

4. Bicycle Access

In the vicinity of the project site (within 2,000 feet), the Transportation Element of the City's Master Plan has designated Market Street, Brannan Street and The Embarcadero as bicycle routes. None of these streets have bicycle lanes in the project vicinity.[1]

E. AIR QUALITY AND CLIMATE

1. Air Quality

San Francisco's persistent summer winds and its upwind position with respect to major pollutant sources continue to give it possibly the cleanest air in the Bay Area. Despite these advantages, there are periods, usually in fall and winter, when the air becomes stagnant. At these times the entire Bay Area has poor air quality. In 1980, only the standard for suspended particulates was exceeded in San Francisco; while the other 5 measured pollutants were all below the standards.[2]

While San Francisco's air quality is better than most locations in the Bay Area, Table 3, page 47, shows that the state and federal standards are not met in the Bay Area. This has resulted in the development of the 1979 Bay Area Air Quality Plan, as part of the Environmental Management Plan (EMP) prepared by the Association of Bay Area Governments (ABAG) and other governmental agencies.[3] After modification, this plan has been incorporated into the State Implementation Plan, and is the current plan for air quality in the Bay Area. The Bay Area Plan contains a comprehensive strategy for the long term attainment and maintenance of the air quality standards. The Plan includes measures to reduce emissions from stationary sources and automobiles, and transportation controls. The air quality problems addressed in the Plan are photochemical oxidants, carbon monoxide and suspended particulates.

2. Climate

The climate of San Francisco is dominated by the sea breezes characteristic of marine climates. Because of this steady stream of marine air, there are few extremes of heat

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[1]Russell Lee, Traffic Engineering Division, DPW, telephone conversation, 23 October 1981.

[2]Bay Area Air Quality Management District, Air Currents, Vol. 24, No 3, March 1981.

3Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, January 1979.

TABLE 3

Number of Days Selected Pollutants Exceeded State or Federal Standards, 1980[1]

Monitoring Site	Ozone[2]	Nitrogen Dioxide	Carbon Monoxide	Suspended Parti-culates	Sulfur Dioxide
San Francisco (900 - 23rd St.)	0.0	0	0	6	0
Redwood City	0.8	0	0	1	0
San Jose	6.2	1	15	15	0
San Rafael	0.7	0	0	1	0
Fremont	5.6	0	0	8	0
Livermore	2.2	0	-	9	0

[1] The State standards are concentrations and durations of air pollutants that reflect the relationship between concentration and undesirable effects. They are target values, and no timetable exists for their attainment. The Federal primary standards represent levels of air quality necessary for protection of public health, with a margin of safety. The provisions of the Clean Air Act, as amended, require that by a specified date the Federal standards should not be exceeded more than once per year.

[2] Ozone exceedances are averaged over a 3 year period. A 3 year average of 1.0 or less is considered to comply with the federal standard.

Source: Bay Area Air Quality Management District, Air Currents, Vol. 24, No. 3, March 1981.

and cold. Temperatures exceed $90^{o}F$ on an average of once a year and drop below freezing less than once a year. The warmest month is September, with an average daily maximum of 69 degrees; the coolest is January, with an average daily maximum of 56 degrees.

Winds in San Francisco are generally from a westerly direction and are persistent from May to August. During the rainy season (October to April), however, the strongest winds flow from the south, as well as from the west and northwest. The project site is exposed to northwesterly winds, the most prevalent direction. Buildings to the northwest are 2 to 4 stories high. The site is partially sheltered from westerly winds. The block across Second Street from the project site is occupied by Pacific Telephone high rises which shelter the site.

F. NOISE

The major noise generators on the east side of the project site are The Embarcadero Freeway and the Transbay bus ramp. Data collected in March 1981 for the preparation of the Spear and Howard office building EIR showed that noise levels at sites overlooking the freeway are dominated by the freeway, while at ground level the freeway structures provide shielding from freeway traffic noise. Based upon those data, the Ldn[1] of traffic on The Embarcadero Freeway would be approximately 83 dBA at the nearest point of Building B.[2]

On-site measurements show that the Ldn of bus ramp traffic would be approximately 80 dBA at the nearest point of Building A. On the west portion of the project site, traffic on Second, Folsom and Harrison Streets is the dominant noise source, with only slight differences (about 1 dBA difference is not audible to human ear) between noise exposure at either the northwest or the southwest corner of the project site.

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[1]Ldn: An averaged sound level measurement, based on human reaction to cumulative noise exposure over a 24-hour period, which takes into account the greater annoyance of nighttime noises. Noise between 10 P.M. and 7 A.M. is weighted 10 dBA higher than daytime noise.

[2]Persons unfamiliar with the terminology and fundamental concepts of environmental acoustics are referred to Appendix C, page A-49.

The City of San Francisco has adopted the day/night average noise level (Ldn) to describe community noise environments. The Ldn is a single number noise rating used to describe the average noise level over a 24-hour period. For traffic noise environments, the Ldn is approximately equal to the peak hour Leq.[1]

G. ECONOMIC AND FISCAL FACTORS

The 1980-1981 assessment of the proposed project site is $1,861,000. At the 1980-1981 property tax rate of $4.92 per $100 assessed valuation, the property yielded about $23,000 in property tax revenues.[2] This is distributed to: the City and County of San Francisco (84.8%, about $19,500); the San Francisco Unified School and Community College District (8%, about $1,800); BART (7%, about $1,600 for bond payments only); and the Bay Area Air Quality Management District (0.2%, about $50).

In addition, approximately $32,500 was paid to the City by the current occupants of the building on the site in the form of sales tax (1% of gross sales), and City business tax (or gross receipts tax at 0.22%) generated $13,270.[3]

The 2 parking lots operated by the Metropolitan Parking Corporation generated $22,000 in parking taxes to the City (15% of gross sales) and $19,000 in business taxes.[4]

The owners of the project site pay a gross receipts tax on the rental income from the building, 2 parking lots and 2 billboards. Total annual gross receipts tax revenues from these leases are about $2,300.

Total revenues to the City's General Fund from the sales tax, nonbonded property tax, gross receipts tax, and parking tax were about $142,000.

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[1] Leq: The equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period.

[2] Of the total tax about $18,610 represents the maximum allowable under Proposition 13 for general government expenditures ($4.00 per $100 assessed valuation), and $4,390 was levied to finance bond obligations previously approved by the general electorate.

[3] Kirby West, M.G. West Company, telephone conversation, 15 July 1981.

[4] David Nelson, Marathon Corporation, letter to EIP 24 July 1981.

The City incurs costs in providing service to the existing building and parking lots. Police, fire and general government expenditures are supported primarily by the General Fund. Most street maintenance, street improvement, and traffic control costs are supported by other revenue sources such as fines, and federal and state aid.[1] Muni and BART incur costs which must be subsidized in providing transit services to the employees.

H. HISTORICAL AND CULTURAL RESOURCES

The San Francisco Peninsula was once inhabited by the Costanoan Indians, a gathering and hunting people who lived a semi-sedentary village life. Although the proposed project site has not been surveyed, it is in proximity to several known archaeological sites within a quarter mile of the project area and is therefore in an archaeologically sensitive area.[2] A prehistoric shellmound was discovered one block southwest of the site during construction of a building in 1929. An isolated find, an obsidian scraper of aboriginal manufacture, was retrieved from a test boring at the Moscone Convention Center 2 blocks from the project site. The lack of associated materials has not made it possible to evaluate the significance of this find. Human skeletal remains were discovered in 1969 at a depth of 75 feet during construction of the Civic Center BART Station 9 blocks from the site and were radiocarbon dated 4950 $\pm$ 250 years before present.

The shoreline of San Francisco Bay was once about 2 blocks east from the project site. The 1853 U.S. Coast Survey Map shows 5 structures located on Second Street between Folsom and Harrison. The U.S. Coast Survey Map of 1859 indicates that the project block is quite developed; there is no indication of building use or architectural character.

The area south of Market Street was a warehouse district and residential area early in San Francisco's history. The area between Market Street and Rincon Hill was known as Happy Valley. This neighborhood dated back to 1849 and was described as being a large tent settlement housing people waiting to go to the gold mines. As the tents disappeared and houses were constructed, the working class settled in the small alleys: Tehama, Clementina, etc.; the middle class on Mission, Howard and Folsom; and the rich built

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[1] City and County of San Francisco, Annual Appropriation Ordinance, fiscal year ending 30 June 1981.

[2] Arlyn Golder, Staff Archaeologist, Regional Office, California Archaeological Site Survey, letter, 18 May 1981.

homes on Harrison and Second and on Rincon Hill. Rincon Hill, which was one of early San Francisco's most desirable neighborhoods, lost its exclusive characteristics when Second Street was extended through Rincon Hill in 1869.[1]

The City's Building Department records for the project site contain a permit issued in 1937 for interior alterations for the U.S. Rubber Company located at 301 Second Street. In 1955 application was made to construct a 1-story warehouse and incinerator. This building was demolished in 1973; the basement was filled and the lot was paved and striped for its current use as a parking lot.

The earliest available records for 315 Second Street show application by the Schilling Company for a permit to build 2 concrete silos for coffee storage in 1938. In 1953, permits were issued at the same address for the remodeling of the Schilling Company offices; exterior improvements were applied for in 1955. This office building was demolished in 1973. The existing building on the site, at 333 Second Street, is occupied by M.G. West and Company, an office supply company. Records show that this building, built around 1900, also had been a part of the Schilling-McCormick Spice Company complex.

I. GEOLOGY, SEISMICITY AND HYDROLOGY

The project site is at Elevation 47 feet (San Francisco Datum).[2] There is slight downward slope to the southwest, along the Harrison Street frontage, with a difference in elevation of 10 feet. General slope down from Harrison Street toward Folsom Street is less than 2%.[3]

The majority of the site is underlain by bedrock. Nineteen to 24 feet of artificial fill and dune sand overlie the bedrock at the northwestern end of the site, along the Folsom Street frontage.[4] The fill is mostly dune sand but contains some silt, clay, broken rock and construction debris.

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[1] Olmsted, Roger, et al., Yerba Buena Center, Report on Historical Cultural Resources for the San Francisco Redevelopment Agency, August 1977.

[2] The San Francisco Datum is approximately 8.6 feet above mean sea level.

[3] Bowers, J.P. & H.T. Taylor, Geotechnical Investigation, Second and Folsom Project, San Francisco, California, Harding-Lawson Associates, San Francisco, California, 3 September 1980, 26 pages.

[4] Bowers, J.P. & H.T. Taylor, Geotechnical Investigation, Second and Folsom Project, San Francisco, California, Harding-Lawson Associates, San Francisco, California, 3 September 1980, 26 pages. pages 4, 5, plates 2-8.

The bedrock consists of 6 feet of hard, strong Franciscan Formation sediments[1] (sandstone) overlying highly sheared and fractured Franciscan Formation sediments (shale). The shale increases in strength and hardness with depth but is not as solid as the sandstone.[2]

There are no active faults on the proposed project site. An inactive fault atop Rincon Hill is approximately 0.2 mile east of the site;[3] no known historic ground failures are directly associated with this fault.[4] There are 4 major fault zones in the San Francisco Bay Area[5] capable of causing strong ground motion at the proposed project site. The San Andreas and Seal Cove Faults are located off the Pacific shore approximately 9 miles and 14 miles, respectively, from the project site. The Hayward and Calaveras Faults are approximately 10 and 20 miles east of the site. Each of these systems is considered active and is capable of generating a major earthquake (greater than magnitude 6 on the Richter scale)[6] during the projected useful lifetime of the structures at this site (at least 50 years).

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[1] Franciscan rocks are typical of the northern California Coast Ranges and underlie the hills of San Francisco. They consist of a mixture of dark colored muddy sediments, red, green and brown cherts and lava flows of black basalt, all material laid down on the floor of the Pacific Ocean about 100 million years ago. Cherts are rocks formed by deposits of silica containing microorganisms, which are transformed into hard, waxy or porcelain-like rocks. See Roadside Geology of Northern California, David D. Alt and Donald H. Hyndman, Mountain Press Publishing Company, Missoula, Montana, 1975. Also known as Franciscan Formation or Franciscan Assemblage.

[2] Bowers, J.P. Op Cit., page 4.

[3] Schlocker, Julius, Geology of the San Francisco Northern Quadrangle, California, U.S. Geological Survey Professional Paper 782, 1974, Plate 1, scale 1:24,000.

[4] Youd, T.L. and S.N. Hoose, Historic Ground Failures in Northern California Triggered by Earthquakes, U.S. Geological Survey Professional Paper 993, Washington, D.C., 1978, 177 pages.

[5] California Division of Mines and Geology; Fault Map of California, Data Map Series No. 1, 1975.

[6] Richter scale: a logarithmic scale developed in 1935 by Charles Richter to measure earthquake magnitude by the energy released, as opposed to earthquake intensity as determined by effects on people, structures and earth materials.

IV. ENVIRONMENTAL IMPACTS

A. INITIAL STUDY

An Initial Study (see Appendix A, page A-1) was prepared for this proposed project to identify potential environmental issues resulting from the project.

Potential environmental issues of the proposed project that have been determined to be insignificant, and therefore will not be addressed in this EIR for the project, are described below.

Approvals: The project would not require approval of permits from City Departments other than San Francisco Department of City Planning or Bureau of Building Inspection, or from Regional, State or Federal Agencies. The project would not conflict with adopted environmental plans and goals.

Visual Quality: Windows would be recessed, and no reflective (mirrored) glass will be used.

Transportation/Circulation: There would be no need for maintenance or improvement or change in configuration of existing public roads or facilities. No new public roads would be constructed.

Air Quality: The proposed project would create no objectionable odors. There would be no burning of any materials. Wind tunnel tests of the proposed designs do not appear justified.

Biology; The project would have no effect on plant or animal life.

Hazards: The site and the project would neither cause nor be affected by hazardous uses or health hazards.

Cultural: The project would affect no historic site, structure, or building. The possible discovery of historical artifacts cannot be discounted.

Water. The project would not reduce the quality of surface water, would not significantly change runoff, nor change the quality of public water supply, nor quality of groundwater.

Natural Resources: The project would not have a significant effect on the potential use, extraction, conservation, nor depletion of a natural resource.

B. LAND USE

The site is currently zoned M-1 (Light Industrial). The proposed project would comply with permitted uses in the M-1 District.

● The sponsor is seeking approval of a combined gross floor area of 754,000 square feet for the proposed 2-building office development (32,730 square feet more than permitted by Code); and a combined FAR of 5.23 to 1. Building A would have an FAR of 5.5 to 1; Building B would have an FAR of 4.9 to 1. Conditional Use approval would be required for the increased FAR.

The proposed PUD project would add approximately 566,000 square feet of office space and 26,000 square feet of ground floor commercial space to the expanding downtown office district in the South of Market area and would replace the existing parking lot and the office/warehouse structure (see Table 4, page 55 for PUD requirements). Although tenants of the building are unknown at this time, a permanent occupancy of approximately 3,000 employees[1] would be expected at the 2 buildings.

Building A is a 12-story (130 feet) structure; Building B is an 11-story (105 feet) structure (see Figure 7, page 18). The height limit for lot 25 is 130 feet; lot 51 is 105 feet. For the purpose of measuring the building height, the site is considered a downward sloping lot from Harrison Street (elevation 54.0 feet) and is considered an upward sloping lot from Folsom Street (elevation 42.5 feet). The measurement of the building height is taken in accordance with Article 2.5 of the City Planning Code. The height line extends horizontally from Harrison Street to a point equally distant between Harrison and Folsom Streets. The measurement of the rest of the site is taken from Folsom Street and runs parallel to the slope of the lot to the point where the measurement from Harrison Street ends. As some features such as certain amounts of roof-top mechanical features are exempt from the height limits,[2] neither Building A nor Building B exceeds the height requirements for the site (see Figure 8, page 19).

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[1] $\frac{\text{722,000 square feet (gross office space)}}{\text{250 square feet per employee}}$ = 2,888 employees

[2] San Francisco Planning Code, Section 260 (b).

TABLE 4

PUD Requirements

Requirements	Proposed Project
Parcel must contain at least 1/2 acre.	Site contains 3.1 acres.
Property must be under common ownership or subject of an application filed jointly by all owners.	The owner, Marathon Development California, proposes to develop the site.
Project must promote goals and policies of the Comprehensive Plan.	The project meets goals and policies of the Comprehensive Plan (see Chapter IV.B. Land Use, page 54).
Provide adequate off-street parking.	The amount of parking required by the Planning Code for these uses and by a computation based upon normal modal split is not being proposed. Instead, a transportation plan is being prepared by the project sponsor in lieu of providing the required 1,196 spaces. The Planning Commission would determine the adequacy of the proposed plan to meet transportation needs and avoid parking congestion.
Provide adequate usable open space for use by project occupants and, where appropriate, by the public.	18,000 square feet of landscaped open space would be provided in public areas.
Allowable dwelling unit density must not be equivalent to a zoning reclassification.	Not applicable to a non-residential project.
Only neighborhood oriented commercial uses allowed in residentially zoned districts.	Not applicable to an M-1 site.
No exemptions from height limits will be authorized other than those allowed in the Planning Code.	The proposed project conforms to height limits.

Beginning at the sixth level (72 feet),[1] each building steps back in a series of setbacks creating roof-top terraces on 4 different building levels. As each building steps back, there is a corresponding reduction in floor area and building bulk (length and diagonal dimension). The maximum length and diagonal dimension for each building at the setback points are shown in Table 5. However, the project has been designed independently from district boundaries in the format of a PUD.

The proposed project would cumulatively contribute to new and proposed development occurring on the fringe of the C-3-S (Downtown Support) District, as has been the trend for the last 20 years. The land use, employment and cumulative growth impacts

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[1]Height and bulk limits apply above 80 feet.

[2]In measuring the bulk of Building B, the entire building cannot exceed the bulk dimensions of the least restrictive district (130-G) and that portion of the buildng located in the more restrictive district (105-F) cannot exceed the bulk dimensions of that more restrictive district. Robert Passmore, Zoning Administrator, interpretation, 3 November 1981.

● TABLE 5

BUILDING BULK DIMENSIONS

Building Level	Building A (Lot 25) Maximum Length (feet)	Building A (Lot 25) Diagonal Dimension (feet)	Building B (Lots 25 & 51)[1] Maximum Length (feet)	Building B (Lots 25 & 51)[1] Diagonal Dimension (feet)
6-7	258	276	258	288
8-9	194*	234*	226*	260*
10	168	212*	196*	220*
11	146	196	176*	206*

Allowed on Lot 25: (District 130-G)	170 feet (length) 200 feet (diagonal)
Lot 51: (District 105-F)	110 feet (length) 140 feet (diagonal)

*Exceeds bulk limits above 80 feet.

GROSS FLOOR AREAS

Floor	Building A	Building B	Total
G	24,000 SF	---	24,000 SF
1	25,000	25,000 SF	50,000
2	32,000	27,000	59,000
3	45,000	42,000	88,000
4	45,000	42,000	88,000
5	45,000	42,000	88,000
6	42,000	37,000	79,000
7	42,000	37,000	79,000
8	33,000	831,000	64,000
9	33,000	31,000	64,000
10	19,000	19,000	38,000
11	17,000	17,000	35,000
TOTAL	403,000 SF	351,000 SF	754,000 SF

Note: Totals do not add due to rounding.

[1] In measuring the bulk of Building B, the entire building cannot exceed the bulk dimensions of the least restrictive district (130-G) and that portion of the building located in the more restrictive district (105-F) cannot exceed the bulk dimensions of that more restrictive district. Robert Passmore, Zoning Administrator, interpretation, 3 November 1981.

associated with the project relate to relevant objectives and policies of the Commerce and Industry Element of the Comprehensive Plan of San Francisco.[1]

General Objective 2; Policy 1: "Seek to retain existing commercial and industrial activity and to attract new such activity to the City."

Specific Objective 6: "Maintain and improve San Francisco's position as a prime location for financial, administrative, corporate, and professional activity."

The proposed project is being designed for use as general offices for existing San Francisco corporations which wish to remain in the City and are in need of office space with large (over 20,000 square feet) floors to house their clerical, secretarial, and administrative support staffs (see Section II.B., page 10).

- Industrial corporations may relocate to the City and use the office space of the proposed project for administrative and clerical functions. While the proposed project is not designed for industrial use, and in fact would not displace any industrial use, it would provide for commercial use.

Marathon Development California, Inc.'s objective is to provide office space that is competitively priced in the regional market. Achievement of this objectively would allow existing San Francisco firms which require large, economical floor space to remain in the City.

Reports such as the Department of City Planning's Guiding Downtown Development,[2] which covers all of the downtown area, proposes to require that developers provide 640 square feet of housing per 1,000 square feet of office space (0.9 units per 1,000 square feet). The report also proposes Comprehensive Plan and Planning Code Amendments to make land uses compatible and to reduce overall building size. An alternative project design that would meet the requirements of Guiding Downtown Development in the project area is discussed in Section VII.F., page 154.

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[1] San Francisco Department of City Planning, Commerce and Industry Element, The Comprehensive Plan, adopted by the City Planning Commission, Resolution 8001, June 1978, pages 2 and 3.

[2] San Francisco Department of City Planning Guiding Downtown Development, May 1981.

SPUR's South of Market: A Plan for San Francisco's Last Frontier[1] draws development goals for the South of Market Area. It incorporates the proposed site in its Area 3 (Yerba

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[1] SPUR, South of Market: A Plan for San Francisco's Last Frontier, June 1981. SPUR is San Francisco Planning and Urban Research, a non-profit community organization funded by membership with a purpose to research and publicize urban issues in San Francisco.

Buena Center and Vicinity), and designates this area for mixed housing and commercial uses and recommends 160 dwelling units per acre and a commercial/office FAR of 2:1. This FAR would allow approximately 288,000 square feet of gross commercial/office area. It proposes mixed land use in order to encourage residential development in this area and allow for a mixed development.

C. VISUAL QUALITY AND URBAN DESIGN

Several policies are contained in the Urban Design Plan of the San Francisco Master Plan which relate to the project area and the proposed buildings.[1]

Major New Development Policy 6: "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction."[2]

While there are a number of buildings over 4 stories in height in the area (see Figure 3, page 13), at the present time the prevailing pattern of development is low-rise (2 to 4 stories) commercial and industrial buildings which cover 100% of their sites. The bulk of the proposed structures would relate to the bulk of the PT&T building opposite the site and other buildings to the west and north toward the Financial Distict. The proposed structures would be bulkier than existing low-rise structures in the area; this would be partially offset by the terraced shape of the buildings and the open space provided on the site, partially conforming to Major New Development Policy 6. The building setbacks above the sixth floor would assist in providing a transition in bulk between the smaller surrounding structures and the proposed project. The stepped up building heights would reflect the ascending pattern of the freeway ramps from a southwest to northeast direction.

City Pattern Policy 1: "Recognize and protect major views in the City with particular attention to those of open space and water."[2]

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[1] San Francisco Department of City Planning, Urban Design Plan, adopted by Resolution 6745 of the San Francisco City Planning Commission, 26 August 1971.

[2] Urban Design Plan, pages 10 and 37.

The proposed structures would partially obstruct views to portions of the Financial District and adjacent buildings from locations near the project site. As previously noted, the project site backs up against the elevated freeway ramps leading to the Bay Bridge and the James Lick Freeway. These structural elements rise to 86 feet in height and currently limit views to the east. Portions of the buildings which rise above the ramps would provide views eastward to the Bay from interior spaces. Upper floors of the building would have views to the Financial District and other areas of San Francisco. Portions of the downtown area would be momentarily screened from view to those persons who would travel past the project on the elevated freeway ramps.

Conservation Policy 6: "Respect the character of older development nearby in the design of new buildings."[1]

There is a mix of architectural styles, colors and construction materials in the project area. The light cream-colored concrete of the buildings' exterior surfaces would blend with the predominant color in the area which is light tan to beige (see Section III.B., page 30). The exterior detailing of the structures would not reflect the detailing and ornamentation of older low rise structures in the area (Figure 18A, page 33), but would generally reflect the simpler building lines of current high rise construction.

Policy for Neighborhood Environment 13: "Improve pedestrian areas by providing human scale and interest."[1]

Ground-level commercial space would be provided in the buildings. Views from sidewalk areas near the intersection of Second Street at Folsom and Harrison Streets would be available toward interior commercial spaces, affording visual interest to pedestrians. A metal railing, which would be constructed along Second Street, would allow visual access to the courtyard, maintain a pleasant pedestrian scale, and provide the security required. The courtyard could be completely landscaped providing a comfortable environment and an attractive foreground to the buildings.

Major New Development Policy 9: "Encourage a continuing awareness of the long-term effects of growth upon the physical form of the City."[1]

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[1] Urban Design Plan, pages 25, 57, 40 and 10.

City Pattern Policy 3: "Recognize that buildings, when seen together, produce a total effect that characterizes the City and its districts."[1]

The proposed structure would relate to Major New Development Policy 9 and City Pattern Policy 3 in terms of cumulative impacts. The buildings would be seen from vantage points throughout the project area. The buildings would also be seen from the elevated freeway ramps (Figure 25, page 61).

The structures would be seen as new elements in the City's emerging urban form of taller buildings over an increasing land area, including the Financial District and South of Market area. The structures would be seen as an element tapering downward from the higher skyline along Market Street and the Financial District outward toward the edge of the central business district.

If current building trends continue, future development of land near the project site would consist of buildings taller than the existing older structures they would replace.

The elevated freeway ramps visually separate the project site from Rincon Hill and block views to Rincon Hill from the project site. Upper floors of the proposed buildings would rise above the freeway ramps, and structures on Rincon Hill would be visible to occupants of the upper floors of the project. Conversely, residents of Rincon Hill would be able to see the proposed structures rising above the freeway ramps and the downtown urban skyline would be perceived as being located closer to the Hill (see Figures 26A and B, and 27, pages 62 and 63).

The allowable FAR in an M-1 District is 5 to 1. The proposed project would have an FAR of 5.23:1.

The proposed project would be within 2 height and bulk districts (130-G and 105-F). The proposed project would comply with the height limits of these districts (see Figure 8, page 19). The proposed project would exceed the maximum bulk requirements (see Section IV.B., page 54).

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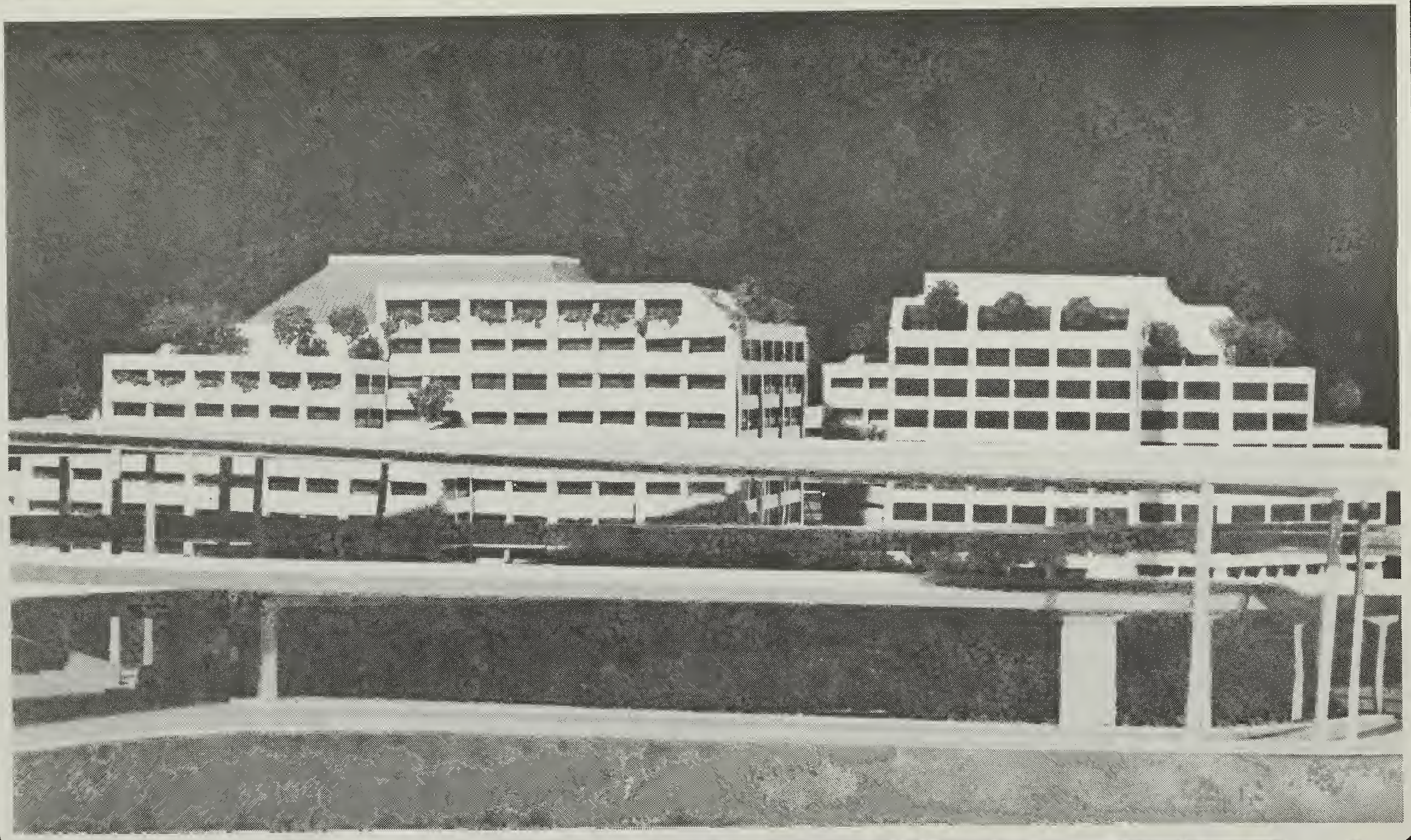
[1] Urban Design Plan, pages 40 and 10.



Rear View of Project Model as seen from Rincon Hill

Figure No. 25

A View from Rincon Hill toward proposed structure.
View would be blocked by buildings on Rincon Hill.

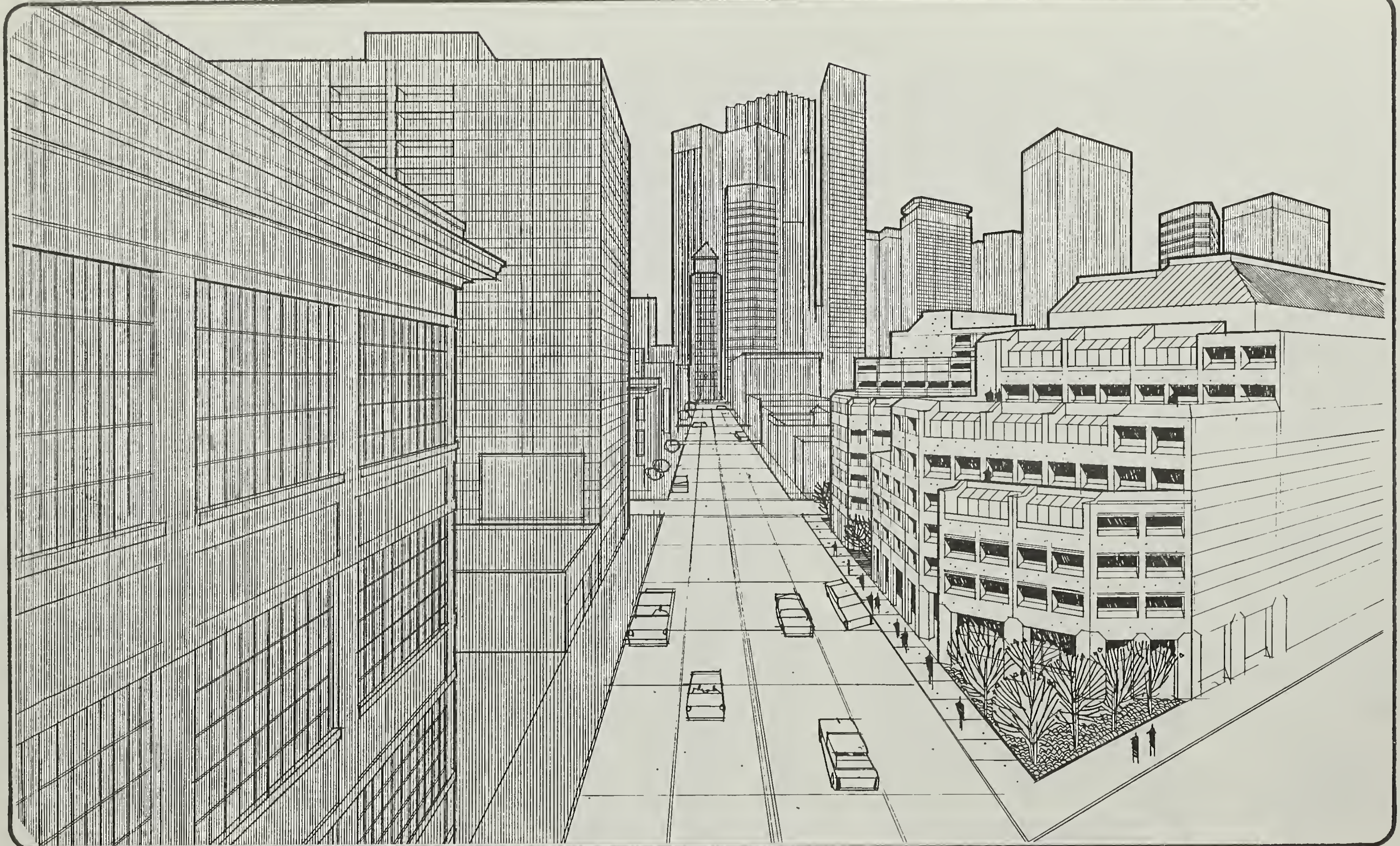
B View From Foot of Rincon Hill

Project Area Photographs

See Figure 17 for photograph orientation

Proposed Buildings

• Figure No. 26



Perspective View of Proposed Project Along Second Street

Figure No.27

An application has been made by the project sponsor for a Conditional Use Permit of a Planned Unit Development to allow for increased floor area, a reduction in the required parking, and an exception to the bulk provisions of the Planning Code.

D. POPULATION, EMPLOYMENT AND HOUSING

The proposed project would not alter the residential density of the area population unless housing would be required on the site. The project would add several thousand people to the daytime population density.

The 47-48 jobs currently existing at the site would have to be displaced from the site. M.G. West Company would relocate in San Francisco, if feasible. Rental rates make it probable that M.G. West Company would relocate outside of the City, most likely in the East Bay.[1]

An estimated $25 million dollars would be spent on labor costs. Assuming an annual cost, including wage, tax and benefits of $30,000 per construction worker, a total of 830 person-years of construction labor would be generated.

● About 3,000 employees[2] could ultimately be located in the proposed buildings. Forty percent or about 1,160 of the new office employees generated by the proposed Second and Folsom office building would be expected to move to San Francisco.[3] The demand for housing by these employees would depend on their incomes and housing preferences.

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[1] Kirby West, President, M.G. West Company, telephone conversation, 7 August 1981.

● [2] Based on 1 employee per 250 square feet of office space, and on 1 employee per 350 square feet of commercial space.

[3] The Department of City Planning currently assumes that 40% of employees working downtown reside in San Francisco. Recht Hausrath Associates, "Commercial Space, Employment, Housing and Fiscal Factors" for EIP Corporation, August 1981.

Not all of the 3,000 employees would seek housing in the City. Some of the employees may be already working in San Francisco and could live within the City limits. New employees to the area may choose to live in the suburbs or in the City. The Department of City Planning estimates that an average of 40% of a downtown area building's work force lives in San Francisco,[1] and that approximately half of that number would cause new housing demand. However, as downtown office employment grows, the average percentage of jobs held by San Francisco residents is likely to decline to around 38-39%.[2]

Approximately 635 housing units would be the amount of housing required of the proposed project by Department of City Planning policies.[3]

- In order to estimate their ability to afford housing in San Francisco, it is assumed that the 1,160 employees would have the same income distribution as all downtown office workers. Table 5, page A-57b in the Appendix suggests that under these assumptions, about 24-26%, or 275-300 employees would be deterred from moving to San Francisco because they would be unable to afford the median rent for even a studio apartment.

- In reality, the pattern of household movement relating to downtown employment is very complex and would probably not exactly follow the average income distribution as assumed. For example, many jobs on the lower end of the income scale would be held by second wage earners within the household and such households would more likely locate for convenience to the chief wage earner's job. This effect would tend to raise the actual

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[1] Sedway-Cooke, Downtown San Francisco Conservation and Development Planning Program, October 1979. p. 48.

[2] Recht Hausrath and Associates, "Commercial Space, Employment, Housing and Fiscal Factors" for EIP Corporation, August 1981.

[3] $\frac{\text{722,000 sq. ft. gross office}}{250} \times .22 = 635 \text{ units}$

From Department of City Planning Memorandum, "Housing Requirements for Office Development in San Francisco," 20 July 1981. Recht Hausrath and Associates ("Commercial Space, Employment, Housing and Office Fiscal Factors" for EIP Corporation, August 1981) have estimated that the number of office employees who move into San Francisco as a result of a project would approximately equal 15 to 30% of the new jobs created by the project. This would mean a demand of 310 to 620 units, assuming that 1.4 working adults in downtown San Francisco occupy each unit.

income distribution of the project work force moving to San Francisco. Moreover, not all lower income employees would be unable to find affordable housing. The median rent statistic implies that 50% of studio apartments are rented below $440 monthly. It is evident, however, that it would be much easier for the higher income employees to make the move.

- Table 6, page A-57c in the Appendix, indicates the direct housing impacts of the project on the 4 areas within the region, as well as the cumulative impacts of downtown office development. For San Francisco the projected housing demand exceeds projected growth by a factor of nearly 3. The overall jobs/housing imbalance in San Francisco, which is the ratio of the number of jobs to the number of housing units, is estimated to be about 1.65 and ABAG projects an increase to 1.95 by the year 2000.[1]

- Table 7, page A-57d in the Appendix indicates what proportion of those project employees who are expected to live outside San Francisco could afford the cost of the average priced homes in their respective locations. The employees in each of the areas are assumed to have the same income distribution as all downtown office workers. The percentage of project employees able to afford average priced housing ranges from a low 14% on the Peninsula to a high of 23% in the East Bay. Rental housing is generally within financial range for employees, at least for smaller units. Three-bedroom apartments would be affordable for 53% to 79% of the households.

- Downtown office development is one of a variety of factors which affect the cost and availability of housing in San Francisco. The conditions in the regional housing market also affect prices in the City. San Francisco is one of several areas in the Bay Area region where housing demand is greater than the supply. ABAG reports that "the core of the region" - San Francisco, North Alameda, Hayward and South Marin - issues permits an average of 50% below the ABAG annual goal for their area.[2] Job growth throughout the

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[1] Association of Bay Area Governments, Population Employment Housing Projection 1980-2000, Projections 79, pages 11-7, 10.

[2] ABAG, San Francisco Bay ARea Housing Activity Report, No. 3, May 1981, page 49. The housing goals have not yet been finalized, however. The ABAG executive board is scheduled to approve the goals by May 30, 1982, which will supercede those which are discussed in the ABAG report. Dan Lopez, Chief of Housing Program, ABAG, telephone conversation, 2 February 1982.

region coupled with lagging housing in a broad area, high interest rates and inflation create added pressures on housing prices in San Francisco.[1]

- The limited information available on housing production in the Bay Area counties suggests that most subregional markets have been depressed in recent years. Regionally, single family permits, as shown in Table 8, page 57e in the Appendix, declined in 1979 and 1980. Alameda, Contra Costa, San Francisco, San Mateo and Sonoma County permit issuances rose from 1978 to 1979, but then declined in 1980. A similar pattern is exhibited in Table 9, page 57f in the Appendix for multi-family permits, with the exception that condominium permits increased steadily through 1980. Rental permits in Napa and Santa Clara counties also rose in 1980.

The estimated 1981 employment and resident population for San Francisco is 544,400 and 637,200, respectively.[2] The 3,000 jobs generated by the project could increase City resident population by 720 to 1,380 persons.[3]

- Secondary employment would be generated through the multiplier effect. Assuming that the new permanent jobs are in the finance, insurance, and real estate (FIRE) sector, about 3,000 additional jobs in other sectors of the Bay Area Economy would result from the growth of FIRE business.[4] About 37%, or 1,110 of these jobs, would be blue collar jobs. The total number of Bay Area jobs that would be supported by the growth in permanent downtown employment due to the project would be 6,950.

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[1]This is a summary of regional and San Francisco housing characteristics included in the Five Fremont, Final EIR EE80.68, certified on 12 March 1981, page 41 and 42, and is hereby incorporated by reference into this EIR.

[2]State of California, Annual Planning Information, San Francisco-Oakland SMSA, San Francisco City and County, May 1980.

[3]Resident population is based upon the estimated housing demand generated by the project and the 1980 census figure of 2.19 persons per San Francisco dwelling unit.

- [4]Cooperative Extension Service, University of California, Berkeley, San Francisco Area Input-Output Model 1967, 1974. Wages were converted into employment based on relative average wages by industry for the San Francisco-Oakland SMSA (California Employment Development Department, California Employment and Payrolls, October-December 1977).

- The secondary employment generated by the project would create demand for an additional 659 housing units throughout the Bay Area.

E. TRANSPORTATION

An analysis of the transportation impacts of the proposed project must consider the project itself and the cumulative effect of other projects in the downtown area. The City has projected the cumulative trip generation and modal split of a number of other office and retail developments in the downtown area.[1] All the developments included in this analysis would be occupied on or before the 1983 occupation estimated for the proposed project.

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[1] San Francisco Department of City Planning, Guidelines for Environmental Evaluation - Transportation Impacts, 3 July 1980 (revised October 1980).

1. Project and Cumulative Trip Generation/Distribution

The City's transportation impact analysis guidelines[1] suggest that a total of 17.5 daily person trips should be assumed as the trip generation rate per 1,000 square feet of leasable area in an office project. It is estimated[2,3] that the project's commercial areas would generate 150 daily person/trips per 1,000 square feet of net retail area. An estimated 50% of these commercial generated trips would be internal to the project (i.e. within or between the project buildings).

The proposed project would have a net office area of 566,000 square feet and a net retail area of 26,000 square feet. As outlined in Table 6, page 67 the proposed Second and Folsom project would generate a total of about 11,900 daily person trips (excluding trips to/from the commercial areas which would be internal to the project) of which approximately 5,840 would be work trips and 6,020 would be non-work trips. Approximately 2,180 of the daily trips would occur during the evening peak hour.[4]

In comparison with the foregoing figures, the City projection of cumulative travel for downtown projects approved through October 1980 (but not yet built) is approximately 25,500 peak hour person trips.[4] In addition, a preliminary review of other projects

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[1] San Francisco Department of City Planning, Guidelines for Environmental Evaluation - Transportation Impacts, 3 July 1980 (revised October 1980).

[2] Institute of Transportation Engineers, Trip Generation, Virginia, 1979.

[3] California Department of Transportation, 11th Progress Report on Trip Ends Generation, San Francisco, July 1976, pages 69-84, 93-108.

[4] San Francisco Department of City Planning, Guidelines for Environmental Evaluation - Transportation Impacts, 3 July 1980, revised October 1980.

approved from November 1980[5] through October 1981 indicates about 7,800 additional person trips.

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[1]Peak hour trip generation data were compiled for the following projects approved from November 1980 through October 1981:

- 444 Market (Shaklee)
- Pacific III
- Levi's Plaza (not fully occupied)
- 101 California Street
- Federal Reserve Bank
- 1 Montgomery (Crocker Tower)
- 1 Sansome Street
- 150 Spear Street
- Embarcadero 4
- Daon Building (Battery and Sansome)
- Pacific Lumber Building (Washington and Sansome)
- 456 Montgomery Street
- Pacific Gateway
- 10 United Nations Plaza
- 1170 - 1172 Market Street
- 750 Battery Street
- 550 Kearny Street
- Ramada Hotel
- Holiday Inn
- 5 Fremont Center
- 101 Montgomery
- China Basin
- 95 Howthorne
- 25 Jessie
- 101 Mission
- 1155 Market
- Hilton II Tower
- Holiday Inn (Civic Center)

TABLE 6

Project Trip Generation

Land Use	Daily Trip Rate per Floor Area	Daily Trips	Ratio of Work/Non Work Trips	Daily Work/Non Work Trips	% Daily Trip in PM Peak Hour (4:30 5:30)	PM Peak Hour Trip
566,000 sq. ft. Office	17.5[1]/1,000 sq. ft.	9,900	57%/43%[1]	5,640/4,260	20%[1]	1,980
26,000 sq. ft. Commercial	75[2]/1,000 sq. ft.	1,950	10%/90%[2]	195/1,755	10%[2]	195
		11,850		5,835/6,015		2,175

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[1]Source: San Francisco Department of City Planning, Guidelines for Environmental Evaluation - Transportation Impacts, 3 July 1980 (revised October 1980).

[2]Source: California Department of Transportation, 11th Progress Report on Trip Ends Generation, San Francisco, July 1976, pages 69-84, 93-108.

- The Second and Folsom project would amount to about 6-7% of the cumulative peak hour trip generation of the projects approved through October 1981.[1]

Based upon the suggested modal split in the City guidelines, the apportionment of project trip generation has been calculated and compared to the cumulative trip generation of other development. The various trip totals are outlined in Table 7, page 69, and are the basis for all trip related impact analyses.

2. Impacts on the Street System

Traffic volumes in the vicinity of the project site are given in Table 8, page 70. (While 2 of the counts are over 2 years old, new project activity in the area has been minimal and the volumes are relevant.)[2] In general, stable traffic flow conditions (Service Level 'C' or better as outlined in Appendix D, page A-53) can be maintained on 2-lane streets carrying 10,000-12,000 daily vehicles and 4-lane streets carrying 20,000-25,000 daily vehicles.[3] Within these criteria, the streets listed in Table 8, page 70 are experiencing stable traffic flow.

A more specific analysis of traffic flow quality examines the peak traffic flow at signalized intersections. Turning movements have been counted during the p.m. peak hour at 4 intersections near the project site: Folsom/First, Folsom/Second, Harrison/First and Harrison/Second.[4] Using a "critical movement analysis"[5] the service levels of the

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[1] The calculation of daily and peak hour trips is based upon the project's square footage as outlined in Guidelines For Environmental Evaluation-Transportation-Impacts, San Francisco Department of City Planning, 3 July 1980, revised October 1980, which bases trip generation on square footage. In a separate calculation provided by EIP Corporation (section IV.D. page 64) it is calculated that the project when occupied, would contain about 3,000 employees. The apparent disparity between the employee count and the 2,180 evening peak hour trips can in part be attributed to the separate calculations. It is probable however, that the adoption of a flexible work hours program would result in 3,000 employees generating 2,180 evening peak hour trips. This comparison suggests that about 70% of the employees would depart during the evening peak hour. An additional 10-15% of the employees would probably depart during each of the hours before and after the peak hour.

[2] Vince Brown, Traffic Engineering Division, DPW, telephone conversation, 13 July 1981.

[3] Institute of Transportation Engineers, Transportation and Traffic Engineering Handbook, New Jersey, Prentice-Hall, 1976, pages 337-338.

[4] Intersection counts conducted by EIP Corporation on 8 May 1981.

[5] "Critical Movement Analysis" described in Circular No. 212, Transportation Research Board, January 1980. Calculation sheets are on file in the Office of Environmental Review, 45 Hyde Street, San Francisco.

TABLE 7

Project and Cumulative Trip Generation During PM Peak Hour[1]

(For Projects Approved Through October 1981)

Mode and Distribution	Project	Other Development	Total
Auto	785	12,010	12,795
Muni	630	9,470	10,100
BART	330	4,730	5,060
AC	180	2,530	2,710
SAMTRANS	35	450	485
SP	95	1,330	1,425
GGT	100	1,440	1,540
FERRY	30	400	430
OTHER	60	670	730
TOTALS	2,245[2]	33,030	35,275

[1] Source: Modal split factors contained in Guidelines for Environmental Evaluation - Transportation Impacts, Department of City Planning, San Francisco, 3 June 1980. (revised October 1980)

[2] This number exceeds the 2,175 person-trip projection (see Table 8, page 70) because intermodal transfers are included. These transfers are reflected in the modal split distribution outlined in Guidelines for Environmental Evaluation - Transportation Impacts.

intersection have been calculated and shown in Table 9, page 71. While these service levels indicate stable traffic flow conditions the downtown freeway network is the actual constraint on vehicle access to/from the project area. The Interstate 80 freeway operates at jammed conditions (Service Level E-F) during the evening peak hour.[1] Thus, the overall congestion on the freeway can affect the flow on specific freeway links or individual ramps. In addition, congestion on the Bay Bridge on-ramp backs up through the Harrison/First intersection during peak portions of the peak hour. When these back-ups occur, vehicle queues are representative of Service Level E-F at this location.

TABLE 8

Traffic Volumes*

Street and Location	Daily Volume	P.M. Peak Hr. Volume	Date of Count**
Howard St. (west of 4th)	13,300	2,140	1977
Folsom St. (west of 4th)	13,500	1,390	1977
Harrison St. (west of 4th)	10,800	1,560	1981
First St. (north of Howard)	11,500	1,130	1981
Third St. (north of Bryant)	21,300	1,650	1980
Third St. (north of Harrison)	17,900	1,510	1981

*Obtained from traffic count records of the Traffic Engineering Division, San Francisco Department of Public Works.

**The Department of Public Works, Traffic Engineering confirms that use of 1977 counts is acceptable in this area of the City, Vince Brown, telephone conversation, 13 July 1981.

[1] Leonard Newman, Chief, Highway Operations Branch, CalTrans, telephone conversation, 7 August 1981.

TABLE 9

Service Levels[1]

Folsom/First	- Service Level A
Folsom/Second	- Service Level B
Harrison/First	- See discussion below
Harrison/Second	- Service Level B/C

- A total of about 12,800 new p.m. peak hour auto trips are projected (see Table 7, page 69). No statistics are available for comparing this increase to the existing downtown peak hour traffic. Based upon comparisons available for other modes it is estimated that the total peak hour auto travel in the downtown area could increase by approximately 30%.[2] If the 30%-increase and the increase generated by the proposed project are applied to the peak hour volumes obtained for the Folsom/Second, Harrison/First and Harrison/Second intersections, the service levels shown in Table 10 would result.

TABLE 10

Projected Service Levels

	Existing Service Level	Service Level in 1983 Without Project	Service Level in 1983 With Project
Folsom/First	A	B	B
Folsom/Second	A	B	C
Harrison/First	F/F*	E/F*	E/F*
Harrison/Second	B/C	E	E

*During periods of congestion on the Bay Bridge on-ramp, this intersection experiences vehicle queues characteristic of Service Level E-F.

- [1]See Appendix H, page A-81, for Intersection Capacity Analysis worksheets.

[2]In order to compare existing and projected downtown traffic, it would be necessary to first identify the existing p.m. peak hour outbound traffic volumes on all of the major freeways and surface streets serving the downtown. Such traffic volume data are not available. A similar comparison has however been prepared for the various Muni lines serving the downtown.

- Because traffic flows during the peak 15 minutes are 10-15% higher than average flows throughout the peak hour, the intersections would operate approximately 1 service level lower during these peak 15-minute periods.

- In addition to a degradation in the quality of traffic flow on surface streets as a result of the cumulative development, the freeways and freeway ramps would be critical links in the overall network. With the freeways currently operating under congested conditions during peak hours, the traffic increases generated by cumulative downtown development would add to this congestion, with the likely result that travel delays would be extended. If mode splits remain unchanged, traffic delays would probably increase in proportion to the increased trip generation of the downtown area. The 30-35% increase in trip generation attributed to approved downtown development would therefore add 30-35% to peak hour delays. As further development occurs, the peak hour traffic flows could be extended over a 2-3 hour period. However, this is not the historical pattern of recent years as the number of persons per car has increased as has transit ridership.

- A further concern is related to the potential demolition of The Embarcadero Freeway. Although no specific projections are available, the removal of this freeway would add traffic to surface streets and could focus further traffic at on/off ramps in the vicinity of the proposed project. The demolition is considered to be among the City's highest priorities but the final decision[1] depends upon the findings of an environmental review of the project.[2]

The increased traffic due to cumulative development would probably affect the industrial activities in the project area. On streets south of the project site, increased traffic would result from travel to/from freeway ramp locations. The increased traffic would probably extend south to Berry Street, location of the I-280 off-ramp. As many of the industrial uses depend upon the streets for loading and deliveries, vehicle conflicts would increase.

Truck delivery and loading would be disruptive to through-traffic flow and would delay this flow. Increases in through-traffic would make truck maneuvering (such as backing up

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[1] Any decisions based on the I-280 Transfer Concept Program (Study) would be made by Caltrans, Muni, MTC, and UMTA.

[2] Chi-Hsin Shao, Department of City Planning, Transportation Section, telephone conversation, 17 April 1981.

to loading docks) in the area surrounding the proposed project more difficult. Project truck maneuvering would be on-site.

3. Transit Impacts

- San Francisco Municipal Railway. Muni operates 34 routes within walking distance (2,000 feet or 2-3 blocks) of the project site (Table 2, page 43). (In the South of Market area blocks are approximately 400 feet long by 600 feet long.)

- The 1983 patronage characteristics and load factors for the various downtown Muni lines are outlined in Table 11, page 74. These statistics already reflect the growth in patronage due to other downtown development. Cumulative development would increase patronage by about 30% and those lines with load factors greater than 1.00 would be experiencing significant congestion. Since the listed load factors are an average of all the loads during the peak hour, certain runs in that peak hour could experience even greater congestion. The LRVs on Muni Metro lines are designed for a seated capacity of 68 and a maximum passenger load of about 150; at a load factor of 1.00, about 80 people would be standing (from Muni 5-Year Plan, 1979-1984, page 20).

  Muni load factors will be further increased by downtown projects which have been approved since the City patronage projections were prepared.

  The additional peak hour patronage due to the proposed project was added to the existing patronage on a proportional line by line basis. As indicated in Table 11, page 74, the project would increase the 1983 load factors by not more than 2%. However, passengers on the 18 lines with load factors greater than 1.00 would be experiencing uncomfortable crowding.

- The Muni 5-Year Plan is updated yearly. The 1981-1986 plan projects a 10-15% increase in the system capacity by 1986.[1] This increase would reflect added capacity in the Muni Metro light-rail service, and the replacement of existing buses with articulated coaches. This capacity increase would relieve the projected load factors; specific benefits, however, would depend upon a more detailed improvement program with capacity increases cited for each route. It is not known at this time how this plan might affect the South of Market Area. The 1981-1986 plan was based upon the extensive use of federal funds. Muni now anticipates that federal monies may be curtailed by 1984-1985 and other sources of funds must be sought.[2] These could include an increase in fares, special assessment districts, development fees, bonds, and/or municipal/state funds. If such funds are not obtained, projected Muni impacts would not be alleviated.

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[1] San Francisco Municipal Railway, 1981-86 Muni 5-Year Plan, 15 May 1981, pages 2-249 to 2-252.

[2] Bruce Bernhard, Public Utilities Commission, SPUR presentation, 21 January 1982.

- If the availability of monies is reduced, the improvement program would be altered and Muni impacts could be increased. Even with an across the board 10-15% capacity increase, 14 of the 38 lines listed in table 11 would have load factors approaching or exceeding 1.00.

- Twenty-two of the 34 lines within 2,000 feet of the project site operate in the Market and Mission corridors. Because of the distances and safety concerns associated with walking to/from these lines, the project's general transit accessibility could be impaired. The Muni lines adjacent to the project site could be used to gain access to Mission and Market Streets, (see Figure 23, page 42 of the EIR), although the reduced convenience of transit could cause project employees and visitors (and employees/visitors of other projects south of Market) to shift to automobile travel. This modal shift would intensify the traffic and parking impacts outlined in Sections E(2) and E(4) of this EIR.

- If an effort were made to increase Muni service adjacent to the project site, additional capital and operating costs would accrue to the City. The magnitude of these costs would depend upon the potential for line extensions/revisions vs. development of ne wlines. Muni is presently considering several trunk line improvements in relation to the I-280 concept program which would enhance service in the vicinity of the project. These include the extension of Muni Metro to the Southern Pacific Depot (estimated cost $45 million) and an LRV service on the E-line from Fort Mason to the S.P. Depot (estimated cost $12 million).[1] These improvements would help facilitate extension of local transit service to the area of the project site.

<u>BART</u>. BART staff[2] have provided the following p.m. peak hour operating statistics for outbound trains at their peak load points (during April-June 1981):

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[1] Department of Transportation, letter dated 29 May 1981, "SF-280 I-280 Transfer Concept Program".

[2] John Stamas, BART Planning Staff, personal communication, 10 Auguest 1981.

TABLE 11

Muni Patronage Summary
PM Estimated Peak Hour-Outbound Direction

(Muni Lines Within 2,000 Feet - 2-3 Blocks - of Project Site)

Line	1983 Patronage: Existing* Patronage	1983 Patronage: Without Project**	1983 Patronage: With Project	Capacity	Load Factors***: Existing	Load Factors***: 1983 Without Project	Load Factors***: 1983 With Project
1	400	539	549	450	0.89	1.20	1.22
2	572	773	787	600	0.95	1.29	1.31
3	511	689	698	525	0.97	1.31	1.33
5	986	1,331	1,356	1,275	0.77	1.04	1.06
6	500	677	690	675	0.74	1.00	1.02
7	327	442	450	450	0.73	0.98	1.00
8	658	888	905	1,125	0.59	0.79	0.80
9	531	716	729	750	0.71	0.95	0.97
11	676	911	928	750	0.90	1.21	1.24
12	487	657	669	525	0.93	1.25	1.27
14	1,215	1,642	1,673	1,275	0.95	1.29	1.31
14GL	253	342	348	300	0.84	1.14	1.16
14X	655	884	901	675	0.97	1.31	1.33
15	887	1,196	1,218	975	0.91	1.23	1.25
17X	260	350	357	375	0.69	0.93	0.95
21	660	893	910	825	0.83	1.08	1.10
27	158	212	216	300	0.53	0.71	0.72
30	1,067	1,442	1,469	1,425	0.75	1.01	1.03
30X	822	1,112	1,131	975	0.84	1.14	1.16
31	498	676	689	525	0.95	1.29	1.31
32	416	561	572	1,050	0.40	0.53	0.54
38	989	1,334	1,359	1,125	0.88	1.19	1.21
38L	656	884	901	675	0.97	1.31	1.33
40X	321	435	443	525	0.61	0.83	0.84
41	90	120	122	325	0.28	0.37	0.38
42	230	312	318	300	0.77	1.04	1.06
71	379	512	522	375	1.01	1.37	1.39
72	276	373	380	300	0.92	1.24	1.27
80X	433	585	596	600	0.72	0.98	0.99
J	798	1,077	1,097	1,235	0.65	0.87	0.89
K	3,119	4,210	4,289	3,900	0.80	1.08	1.10
L	1,750	2,360	2,404	2,650	0.66	0.89	0.91
M	1,340	1,810	1,844	1,325	1.01	1.37	1.39
N	2,050	2,768	2,819	2,400	0.85	1.15	1.17

*Capacity, patronage (without project) and load factors (without project) obtained from Guidelines for Environmental Evaluation Transportation Impact, Department of City Planning, San Francisco, 3 July 1980 (revised October 1980). (Also includes projects approved from November 1980 through October 1981).

**Patronage and load factors (with project) reflect a line by line proportional distribution of the proposed project's estimated Muni patronage.

***The listed load factors are an average of all the loads during the peak hour. Certain runs in that peak hour could experience even greater congestion. Load factor is a measure of vehicle capacity. For most Muni vehicles a load factor of 1.00 represents a designed capacity of 150% of the number of seats. For LRV's a load factor of 1.00 represents a designed capacity of 220% of the seated capacity. For example, a load factor of .85 on the N Judah line would mean that approximately 60 people would stand, 20 fewer than the maximum number of standees for which the vehicle was designed.

TABLE 12

BART Peak Hour Operating Statistics

	East Bay	Daly City
Seats	8,640	6,199
Passengers	11,859	5,946
Average load factor	1.37	0.96

With heavier ridership during portions of the peak hour, certain peak trains experience load factors which are approximately 10% higher. In April and May of 1981, BART transbay patronage was 11-12% above predictions, about 84,000 person trips/day.[1]

● Cumulative downtown development would increase BART ridership; the proposed project would add 6-7% to this increase (see Table 7, page 69). It is projected that the East Bay trains would experience average peak hour load factors of 1.6-1.8 and higher factors on certain peak trains. (BART load factors are calculated on the basis of passengers divided by available seats.) BART District policy calls for a maximum load factor averaging 1.3 for all trains during the peak hour.[2] BART's short-term (5-year) improvement program calls for an approximate 20% increase in capacity (with added cars and some decrease in headways).[3] These improvements would allow the peak hour load factors to average 1.2-1.4.

AC Transit.[4] AC Transit operates approximately 200 buses outbound from the Transbay Terminal during the p.m. peak hour. Based on a capacity of 125% of available seating

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[1] BART Office of Research, BART Patronage Report No. 104, May 1981, Attachment I.

● [2] John Stamas, BART Planning Staff, telephone conversation, 23 February 1982.

[3] Ward Belding, BART Planning Staff, telephone conversation, 23 July 1980.

[4] Gene Gardner, AC Planning Staff, telephone conversation, 27 March 1981.

(AC policy accepts 25% standees) and an average of 50 seats per bus, a total capacity of 12,500 passengers is available. With a current peak hour patronage of 9,000 during this peak hour, the overall capacity reserve is 3,500. Certain of the peak runs have higher load factors and therefore no excess capacity. Cumulative development would generate about 2,650 trips, absorbing most of the 3,500 space excess capacity. The proposed project would add 1-2% to the projected ridership (see Table 7, page 69). A.C. Transit

staff indicate that the capacity will be increased approximately 10% over the next 3-4 years and this increase will raise the capacity reserve.[1]

Golden Gate Transit.[2] Golden Gate Transit operates 147 buses out of the downtown area during the afternoon peak hour, about 120 buses on financial district routes and 27 buses on Civic Center routes. On the average, these buses run at their design capacity level as set by Golden Gate policy, (i.e., at seating capacity). Golden Gate Transit allows a maximum (crush) capacity of 55 passengers per bus, corresponding to 10 standees, which equates to 8,085 peak hour riders. Current peak hour ridership out of downtown is estimated at 6,620 passengers. On certain peak runs, more than 10 standees may be present.

With a design capacity of 8,090 peak-hour passengers, the effect of cumulative downtown development would be to raise patronage to about 8,000 passengers. The proposed project would add 100 trips (or approximately 1%) to the projected ridership (see Table 7, page 69). Because of financial limitations, the District would probably not be able to increase its capacity[3] to accommodate the increased demand.

SamTrans.[4] There are currently 12 SamTrans buses leaving the downtown area during the afternoon peak hour. They operate at about 90% of seating capacity, corresponding to peak-hour ridership of about 510 passengers. Assuming a maximum capacity of 125% of available seats, it is estimated that there is a reserve capacity for 240 passengers.

The patronage from cumulative development would appear to exceed the available 240-passenger reserve capacity of SamTrans. The proposed project would add approximately 8% to the trips generated by new development (see Table 7, page 69). No specific capacity improvements have been cited by the District.

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[1] Gene Gardner, AC Planning Staff, telephone conversation, 27 March 1981.

[2] Alan Zahradnik, Golden Gate Transit Planning Staff, telephone conversation, 27 March 1981.

[3] Peter Dyson, Golden Gate Transit, telephone conversation, 17 July 1980.

[4] Larry Stueck, SamTrans staff, telephone conversation, 27 March 1981.

Southern Pacific[1] The SP commute service has been incorporated into an operating agreement between the railroad and the State of California (through CalTrans since 1980). Current service provides 11 southbound trains with 9,000 seats during the p.m. peak hour. The current load factor (based upon 1 seat per passenger) is 0.83, or approximately 7,470 passengers.

Southern Pacific service will be improved through the addition (within 3-5 years) of approximately 1,200 seats to the southbound peak hour capacity. With the system's existing reserve capacity of about 1,530 seats, the total capacity reserve would be about 2,730 seats. Thus, the addition of 1,375 new peak hour passengers (due to cumulative downtown development) could be accommodated. The proposed project would contribute approximately 7% to this load (see Table 7, page 69).

4. Parking Impacts

● Based upon the San Francisco Planning Code, the proposed project's parking requirements would be 1,196 spaces (see Table 13, page 78). In lieu of providing 100% of the required parking, the project sponsor is preparing a transportation program to mitigate transportation needs associated with the project (see Section V.C., page 114). Analysis suggests the project parking demand could range from about 790[2] to about 890[3] spaces depending

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[1] Cecil Smith, CalTrans, telephone conversation, 27 April 1981.

● [2] A demand analysis based upon employee survey indicates a total demand of 786 spaces:

490 single-occupant autos + 221 ride-sharing vehicles = 711 long-term spaces*

200 daily office visitors ** x 36% auto/1.4 persons per auto/5.7 turnovers daily = 10 short-term spaces

Retail parking demand was calculated on the basis of 150 daily person-trips per 1,00 net square feet; 75 internal to the project and 75 external to the project:

26,000 x 75/1,000 x 10% employee x 36% auto/2 trip ends/1.4 persons per auto = 25 spaces

26,000 x 75/1,000 x 90% customer x 36% auto/2 trip ends/1.4 persons per auto/5.7 turnover daily = 40 spaces

*Jon Twichell Associates, Transportation Program = Marathon Second & Folsom Building, September, 1981.

**Letter from DKS Associates to John Twichell Associates, February 18, 1982.

● [3] A demand analysis based upon City guidelines indicates a total demand of 886 spaces:

5,835 daily work trips x 36%* auto/1.4** persons per auto/2 trip-ends = 750 long-term spaces

6,015 daily non-work trips x 36%* auto/1.4** persons per auto/2 trip-ends/5.7** turnovers daily = 136 short-term spaces

*San Francisco Department of City Planning, Guidelines for Environmental Evaluation: Transporation Impacts. June 1980 (revised October 1980.)

**National Cooperative Highway Research Program, Urban Travel Patterns for Hospital, Universities, Office Building and Capital Report No. 62, 1969.

upon the assumptions and methodology used. The lower end of the range resulted from a survey conducted by project sponsor's consultants of Pacific Telephone office buildings at 633 and 666 Folsom Streets. The high end of the range is the result of using City guidelines.

- Trip generation per square foot can vary widely with the character of the occupancy; factors such as amount of retail space, labor intensity, amount of client contact, whether the building houses executive or record-keeping functions, amount of equipment or furniture needed for a function, etc. Therefore a single survey involving the PT&T buildings may not produce a statistically significant result which can be applied to the subject building unless the nature of the occupancy for the project would be precisely the same as that of the surveyed buildings.

- City guidelines are the compilation of many surveys which assume a mix fo tenants and functions. This has the effect of smoothing ou variations from survey to survey. Precise tenant profiles are not necessary to use these guidelines.

Parking for 358 cars is proposed as part of the project, 838 spaces less than code requirements; the remaining demand would be accommodated by the transportation program (see Section V.C., page 114), and at other locations in the area. Parking inventory/occupancy surveys[1] in the area indicate 8,290 parking stalls with present occupancy rates of about 85%. The proposed project would displace a total of 374 parking spaces in existing surface lots on the project site. This displacement would cause motorists to seek other nearby parking facilities. The displacement of existing parking

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[1]Field observations conducted by EIP on 13 January 1982.

and the added demand due to the project would effectively raise the parking occupancy from 85% to 99% within the area surveyed. The development of the Yerba Buena Center (YBC) would also add to the parking demand in the area. The original YBC EIR[1] projected a parking deficit of 2,000 - 4,800 spaces, a projection which considered both the removal of existing parking lots and the new parking originally proposed in 1978 as a part of the YBC development (not including the more recently proposed 1,200-1,500 space parking garage currently under review). The San Francisco Redevelopment Agency is currently considering a number of proposed public and private parking facilities in the YBC area.[2] These facilities would alter the foregoing projections of parking deficits. In addition, the cumulative downtown development projected for the next 3 years would add about 18,000 spaces to the parking demand in the downtown area; the proposed project would account for about 6-8% of this increase (890 spaces calculated above to the 1,196 spaces required by the Code (see Table 13, page 78a).

The increased demand due to the project and cumulative development would raise the parking occupancy to 100+% within the area surveyed. It is probable that the cumulative impact would be an increased parking demand south of Folsom Street and beyond to The Embarcadero. Persons parking this far from the downtown would be forced to walk longer distances. These persons could also use available public transit. However, these additional passengers could exacerbate congestion on the limited Muni lines operating south of Folsom Street. Added vehicle circulation would also result from the increased number of vehicles seeking the limited number of parking spaces, increasing street congestion.

The foregoing factors suggest that the Yerba Buena Center could be impacted by inadequate parking. Visitors to the center would find little if any parking in close proximity. These visitors would have to park further away and walk longer distances or use one of the muni lines as a connecting link. If feasible, visitors may choose to shift to public transit to access the center.

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[1] Department of City Planning, Final EIR Yerba Buena Center - Volume II, (EE 77-220), certified 25 April 1978, pages 345a - 348.

[2] Mike Mann, Development Specialist, San Frncisco Redevelopment Agency, telephone conversation, 18 January 1982.

● TABLE 13

Required Off-Street Parking Calculations
Based on Net Office/Commercial Floor Areas

Office Parking Spaces:

Net Sq. Ft.		Sq. Ft. Per Space		Total Spaces
566,000	-	500	=	1,132

Commercial Parking Spaces:[1]

Net Sq. Ft.		Sq. Ft. Per Space		Total Spaces
20,000	-	500	=	40
6,000	-	250	=	24
26,000		for area over 20,000 sq. ft.		66

Total Required:				1,196

[1] Assumes uses included by "other retail uses" in Table 4, Sec. 151 of the Planning Code. Some of the uses listed on page 1 as possible ground floor commercial uses may instead be included under "other business offices" which does not require a higher rate after the 20,000 square foot threshold.

Off-street freight loading space required by the Planning Code[1] is calculated to be 5 spaces (see Table 14). More recent guidelines[2] indicate that 8 spaces would be needed (see Section VII.G., page 154). The project would provide 4 truck loading areas (16 x 35 feet each) and 4 van loading areas (8 x 20 feet each) (see Section II.C., page 37). Studies by the City[3] suggest that the peak demand could be 25% higher (i.e. 10 spaces). During these peak periods, delivery vehicles may seek spaces on the street.

TABLE 14

Planning Code Required Off-Street Loading
Based on Gross Office/Commercial Floor Areas

727,000 sq. ft. office/bank (3 plus 1 for each 400,000 sq. ft. over 500,000 sq.ft.)	=	4 spaces
27,000 sq. ft. other commercial (1 for 10,001 - 60,000 sq. ft.)	=	1 space
Total Required	=	5 spaces

The added circulation would conflict with truck delivery and loading functions which typically occur on the streets south of the project site, if those functions occur during peak periods. In addition, an increased parking demand would result in office employees parking in on-street and off-street spaces that would otherwise be available for employees and visitors of the adjacent industrial uses.

The project would include an area (proposed on the Second Street frontage) for van-pool drop-off/pick-up.

5. Pedestrian Impacts

Pedestrian volumes on adjacent sidewalks and crosswalks were counted during both the midday (11:30 a.m. - 1:30 p.m.) and evening (4:00 p.m. - 6:00 p.m.) peak periods. The physical conditions, average flows during these periods, and peak 15-minute flow rates are shown in Figure 28, page 80.

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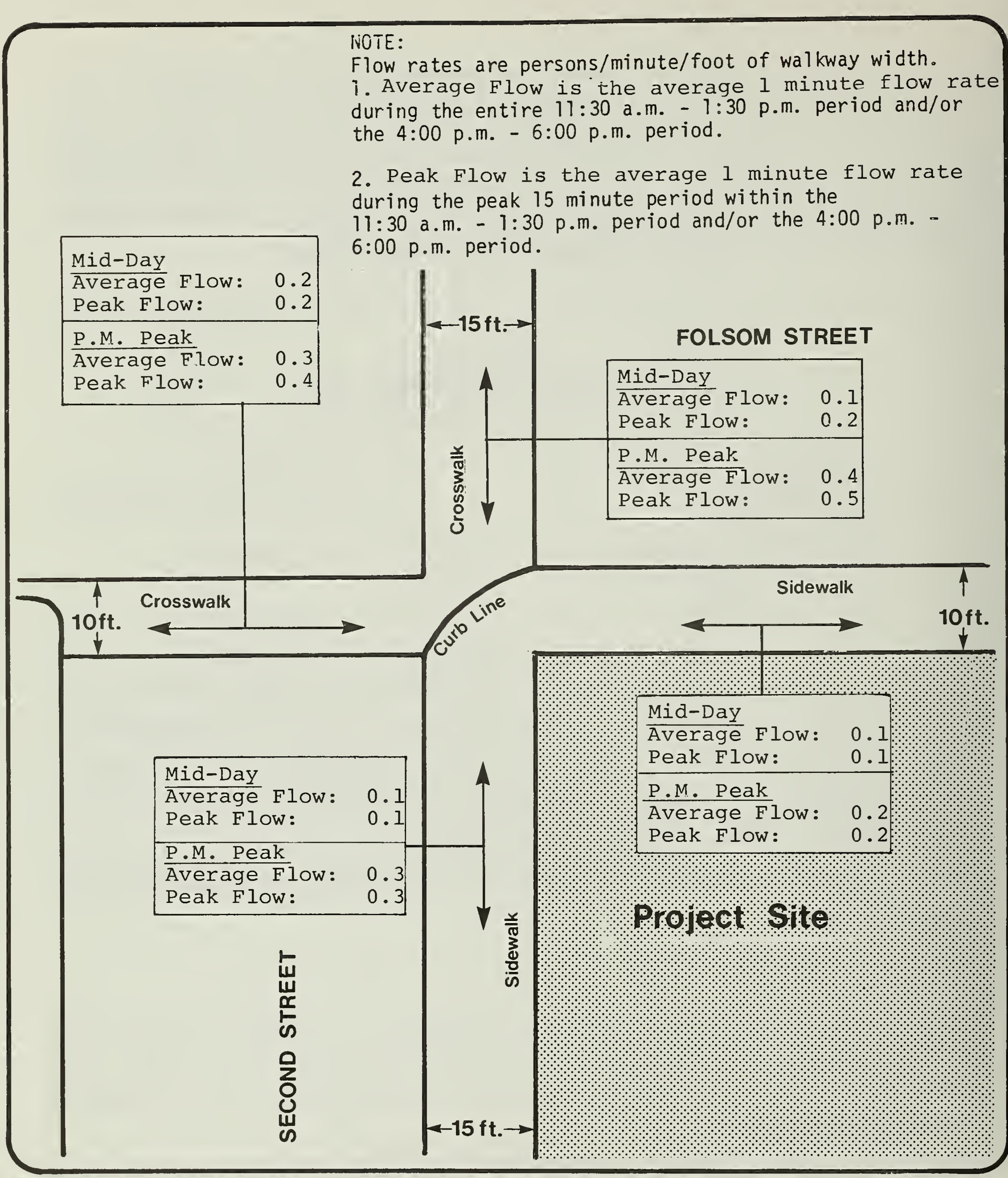
[1] City and County of San Francisco, Planning Code, Section 270, 1979 Edition, Sections 151 and 152.

[2] San Francisco Department of City Planning, Guiding Downtown Development, San Francisco, May 1981, page D-8.

[3] Department of City Planning, Pedestrian and Goods Movement Study, September 1980.



Existing Pedestrian Flows

Indicates pedestrian movement ⟷

North

Not to Scale

Source: Pedestrian counts were conducted at the above crosswalk and sidewalk locations during 11:30 - 1:30 p.m. and 4:00 - 6:00 p.m. by EIP Corporation on 8 May 1981.

Figure No. 28

An accepted methodology for describing pedestrian flow quality is contained in Urban Space for Pedestrians by Pushkarev and Zupan.[1] They cite the following characteristics of pedestrian flow:

TABLE 15

Pedestrian Flow Characteristics

Description	Flow Rate (persons/minute/foot of walkway width)
Open	less than 0.5
Unimpeded	0.5-2
Impeded	2-6
Constrained	6-10
Crowded	10-14
Congested	14+

During the peak 15 minute periods, all of the sidewalks and crosswalks bounding the project would experience open or unimpeded flow. The cited reference also suggests that the "platooning" effect (groups of pedestrians) on pedestrian flows can cause more congested conditions during certain peak periods and that a rate of 4 persons/minute should be added to simulate this platooning. With this adjustment flows would remain unimpeded.

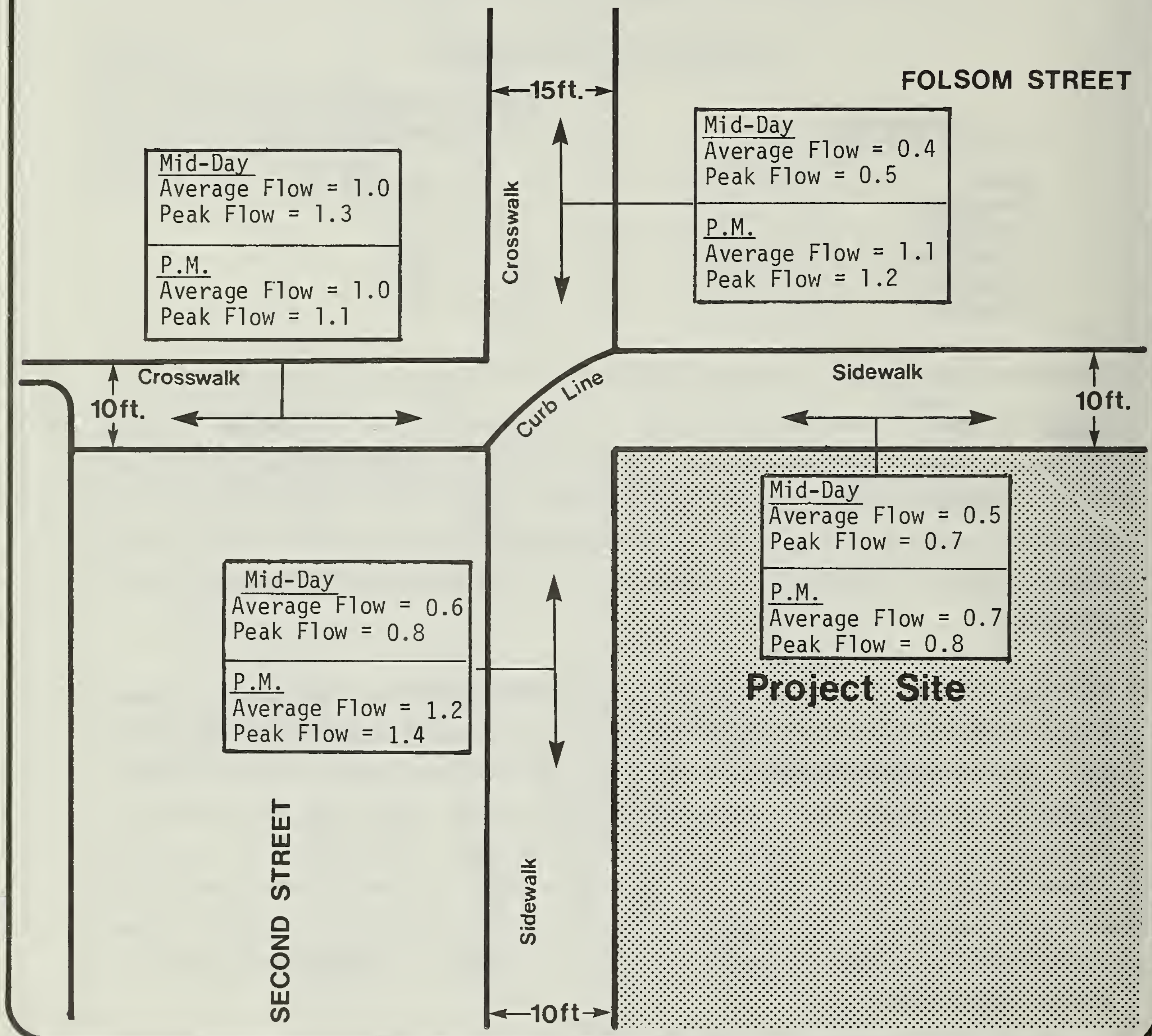
The proposed project's trips would involve some walking; pedestrian trips have been added to the existing pedestrian volumes on sidewalks and crosswalks adjacent to the project site. Based upon travel research conducted by the California Department of Transportation,[2] it is estimated that approximately 30% of the daily trips would occur in the 4:00 p.m. - 6:00 p.m. period and 20% in the 11:30 a.m. - 1:30 p.m. period. Thus, 2,380 midday pedestrian trips and 3,570 p.m. peak period trips have been added to the existing pedestrian flows; the total projected flows are depicted in Figure 29, page 82. Based upon these projections, the quality of pedestrian flow would remain unchanged from the existing characteristics.

[1]Pushkarev and Zupan, Urban Space for Pedestrian, MIT Press, 1975. Methodology recommended in OER Transportation Guidelines.

[2]California Department of Transportation, 10th Progress Report on Trip Ends Generation, San Francisco, July 1975.

NOTE:
Flow rates are persons/minute/foot of walkway width.
1. Average Flow is the average 1 minute flow rate during the entire 11:30 a.m. - 1:30 p.m. period and/or the 4:00 p.m. - 6:00 p.m. period.

2. Peak Flow is the average 1 minute flow rate during the peak 15 minute period within the 11:30 a.m. - 1:30 p.m. period and/or the 4:00 p.m. - 6:00 p.m. period.



Projected Pedestrian Flows

⟷ Indicates pedestrian movement

North
Not to Scale

Source: Pedestrian counts were conducted at the above crosswalk and sidewalk locations during 11:30 - 1:30 p.m. and 4:00 - 6:00 p.m. by EIP Corporation on 8 May 1981.

Figure No. 29

6. Construction Impacts

Although no specific construction process has been formulated, it is projected that about a 1½- 2-year construction period would be required. Based upon the construction employee projections[1] this project would have a peak construction employee parking demand of approximately 100-150 spaces. This demand would compete for the limited parking available in the area.

Although the construction traffic volumes would likely not be high in relation to existing traffic, trucks and other construction traffic could disrupt traffic flow. Trucks and equipment could block some portions of the adjacent streets throughout the construction process. In addition, construction activities would likely encroach onto sidewalks, causing a possible reduction in sidewalk widths and pedestrian congestion. If pedestrians were routed to temporary walkways in the existing parking lanes, this routing could be accomplished without encroaching into the traffic lanes on adjacent streets.

● 7. Summary of Transportation Impacts

As outlined in the foregoing sections, the downtown office projects would have cumulative impacts on the overall transportation system. Those projects approved through October 1981 would add 30-35% to downtown travel during the p.m. peak hour. An additional 30% increase would result from those office projects proposed through October, 1981.

The freeways, freeway ramps and major streets accessing the freeways would experience increases in traffic congestion. Vehicle queues would increase and peak 1 hour flow conditions would probably extend throughout the 3-6 p.m. period.

All of the transit carriers would be at capacity. pasenger loads would be particularly heavy on Muni, BART, Golden Gate and Sam Trans. Peak hour buses and trains would be extremely crowded with uncomfortable conditions for all passengers. Vehicles would probably be crowded to the extent that buses would pass up waiting passengers and trains would be unable to admit passengers waiting at platforms. The peak 1 hour congestion would be extended to 2-3 hours.

Parking facilities would be directly affected by cumulative growth. parking impacts would include inconvenience for downtown employees and visitors forced to park farther from their destinations. A secondary effect could be the increased parking and traffic in neighborhoods removed from the downtown area. Some motorists might seek parking

(both curb and off-street) in peripheral areas and ride Muni to/from downtown. This parking demand would remove spaces from local residences/businesses. It is also psosible that parking inconvenience could cause some commuters and/or visitors to shift to an alternate transportation mode for their entire trip. Some persons might elect to join carpools/van pools or might use public transit.

In summary, the transportation analysis suggests that cumulative downtown development would have major consequences. The magnitude of the impacts would require significant increase sin the system capacity and/or changes in travel habits (i.e., van pool usage, work hour changes, etc.) or the duration of the commute period would increase.

F. AIR QUALITY AND CLIMATE

1. Air Quality

Construction activities would generate pollutants in the vicinity of the project. Trucks and equipment would release exhausts; earthmoving and grading would generate dust and suspended particulates. Adequate information to quantify the generation of dust is not available since emission factors[2] were developed for shopping center and housing construction in suburban desert areas and have little applicability to downtown urban construction. However, it is likely that dust generation due to construction will increase dust fall and soiling in local downwind areas.

The increase in regional emissions occurring when the proposed project is built and occupied would result in degradation of regional air quality. Of particular importance are the increases in hydrocarbons and oxides of nitrogen which result in the formation of photochemical oxidants. Studies of future air quality[3] indicate that photochemical ozone would be a persistent problem in the future, and that reductions in hydrocarbon and oxides of nitrogen emissions would be necessary to attain the federal standard for ozone

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[1]Projection by Bolles Associates, Project Architects, dated 12 June 1981.

[2]U.S. Environmental Protection Agency, Compilation of Air Pollution Emission Factors, 2 April 1977.

[3]Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, January 1979.

in the Bay Area. The proposed project's emissions would represent at most an increase of 0.05% in regional emissions of ozone precursors.[1] Photochemical oxidant modeling conducted for the proposed Yerba Buena Center[2] Redevelopment Project showed that the emissions from that project would result in no measurable change in Bay Area oxidant concentrations. The regional emissions for the proposed project would be less than 5% of those for the Yerba Buena project; therefore, no measurable effect on regional oxidant concentrations would be anticipated. Cumulative development in San Francisco and the Bay Area could, however, have a measurable effect on regional air quality.

Direct atmospheric emissions of primarily carbon monoxide from the project would be from combustion of natural gas for water and space heating. Natural gas is a relatively clean-burning fuel; therefore, no visible fumes would occur. Exhaust gases would be emitted at rooftop level and would be diluted to concentations below the ambient air quality standards before reaching ground level.

The project would act as an indirect source of atmospheric emissions by generating automobile traffic. On the local scale, carbon monoxide (CO) is the most important pollutant emitted by automobiles.

Projected carbon monoxide concentrations for existing conditions near the site, with the project and other anticipated projects, were calculated using traffic volumes presented in the Transportation Impacts Section.[3] Results for worst-case meteorological conditions are summarized in Table 16, page 85. These concentations represent the exposure a person would experience at curbside. Carbon monoxide levels would drop off rapidly with distance from curbside.

Table 16 shows that existing and future predicted carbon monoxide levels are below the federal standards. Levels would be reduced between 1981 and 1983 even with construction of the project because of expected improvements in vehicle emissions controls.

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[1]Calculated by dividing project emissions by total Bay Area emissions.

[2]San Francisco Department of City Planning and San Francisco Redevelopment Agency, Final Environmental Impact Report, Yerba Buena Center, EE 77.220, certified 25 April 1978, page 382.

[3]Bay Area Air Quality Management District, Guidelines for the Air Quality Impact Assessment of Projects, 1975, as amended 15 July 1981.

However, cumulative traffic increases related to anticipated new development would offset emission control improvements, so that carbon monoxide levels would increase for the 1-hour averaging period and remain unchanged for the 8-hour averaging period between 1981 and 1983.

● TABLE 16

Curbside Carbon Monoxide Concentrations[1,2]
Under Worst-Case Conditions (in parts per million)

Intersection	Existing 1-hr.	Existing 8-hr.	With Project (1983) 1-hr.	With Project (1983) 8-hr.	Project and Other Development (1983) 1-hr.	Project and Other Development (1983) 8-hr.
First/Folsom	16.0	6.6	14.7	6.1	16.4	6.5
First/Harrison	16.9	6.2	15.5	5.7	17.4	6.1

TABLE 17

Regional Automobile Emissions (tons/day)

Pollutant	1983 Project Emissions	1983 Cumulative Emissions	1983 Regional Emissions[3]
Carbon Monoxide	0.26	3.9	1,500
Hydrocarbons	0.02	0.3	950
Oxides of Nitrogen	0.02	0.4	800

The regional impact of the project would be due to the increase in Vehicle Miles Traveled (VMT) associated with the project. Based upon the estimate of project trip generation and destination (see Section IV.E., page 66), the daily regional increase of VMT is

[1] Federal Standards are 35.0 ppm for the 1-hour averaging period and 9.0 ppm for the 8-hour averaging period.

● [2] See Appendix G, page A-79 for Assumptions and Procedures for Calculation of Worst-Case Curbside Carbon Monoxide Concentrations.

[3] Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, January 1979.

estimated at 9,000. Using updated composite emission factors supplied by the Bay Area Air Quality Management District and assuming an average trip speed of 25 mph, total regional emissions from the project traffic have been estimated in Table 17, page 85.

- The 1979 Bay Area Air Quality Plan contains assumptions regarding regional growth which are based upon growth projections contained in General Plans which were in force at the time of the promulgation of the Air Quality Plan. Since the proposed project would be consistent with the General Plan that was in existence at that time, it would be consistent with the level of regional growth allowed by the Air Quality Plan. The proposed project would not conflict with the specific pollution control measures detailed in the Air Quality Plan. However, since the proposed project would result in an increase in regional pollutant emissions, it could contribute to a delay in the achievement of the air quality goals of the Plan.

The California Health and Safety Code[1] requires that measures be taken to minimize dust generation, specifically, watering down demolition materials and soils. An effective watering program (complete coverage twice-daily) can reduce emissions by about 50%. The project sponsor would require the contractor to implement a twice-daily watering program, which would reduce the likelihood of airborne construction dust and particulates exceeding state and federal standards.

2. Wind and Shadows

The building design includes features that would reduce the potential for wind accelerations at pedestrian level. The northwest face along Folsom Street includes partial setbacks at the sixth, eighth, tenth and eleventh floors. The setbacks reduce the volume of wind brought down to street level by the building face.

For westerly winds, the orientation of the 2 buildings would tend to accelerate winds between the buildings. Such wind acceleration would be above ground level due to the presence of the atrium. The sheltering effect of the 18-story PT&T Building minimizes the potential for wind acceleration at ground level in the plaza. The use of setbacks along the Folsom Street facade (compared to a design using continuous vertical walls) minimizes the potential for wind accelerations at ground level along Folsom Street under west wind conditions.

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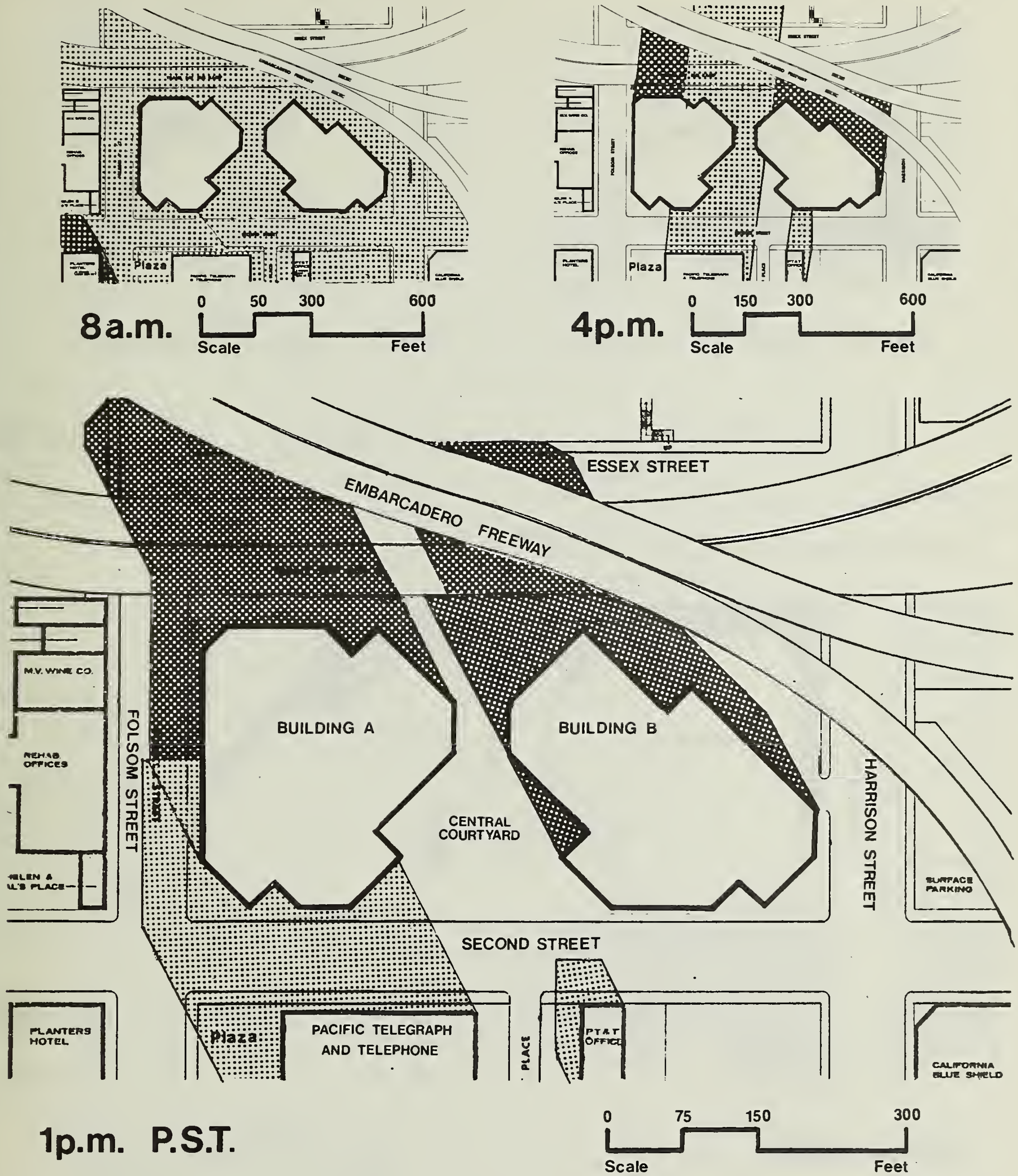
[1] State of California Health and Safety Code, Section 41700.

Depending on the time of day and season of the year, project shadows would affect the south side of Folsom Street, the freeway ramps east of the site, the buildings across Folsom street from the project site, and the PT&T Plaza (Figures 30, 31, and 32, pages 87, 88, and 89). The multiple setbacks included in the proposed design would tend to reduce the area of shadow compared to a building of the same outline using continuous vertical walls.



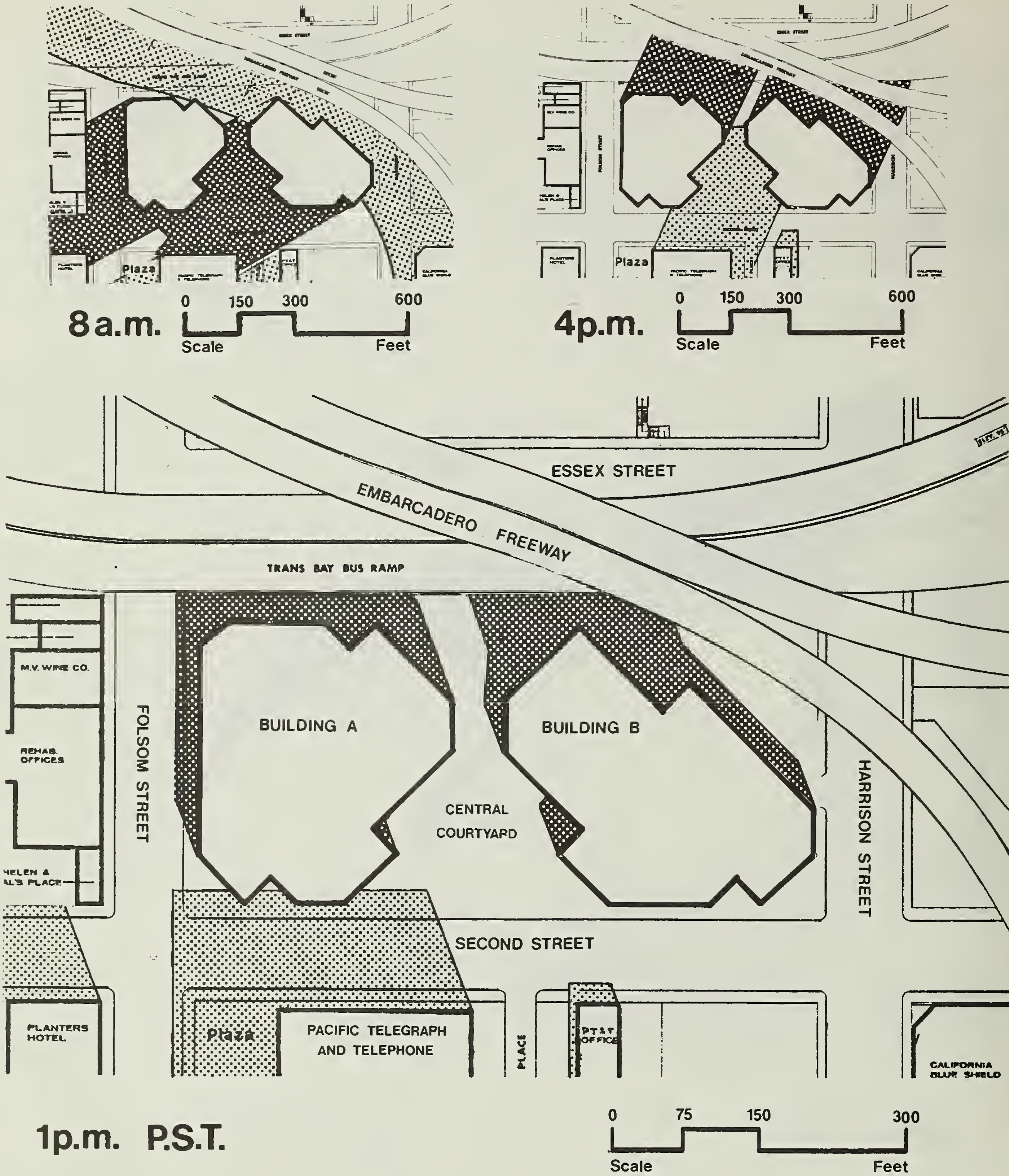
Shadow Patterns December 21

Existing Shadows

Shadows Added by Proposed Project

North

● Figure No. 30

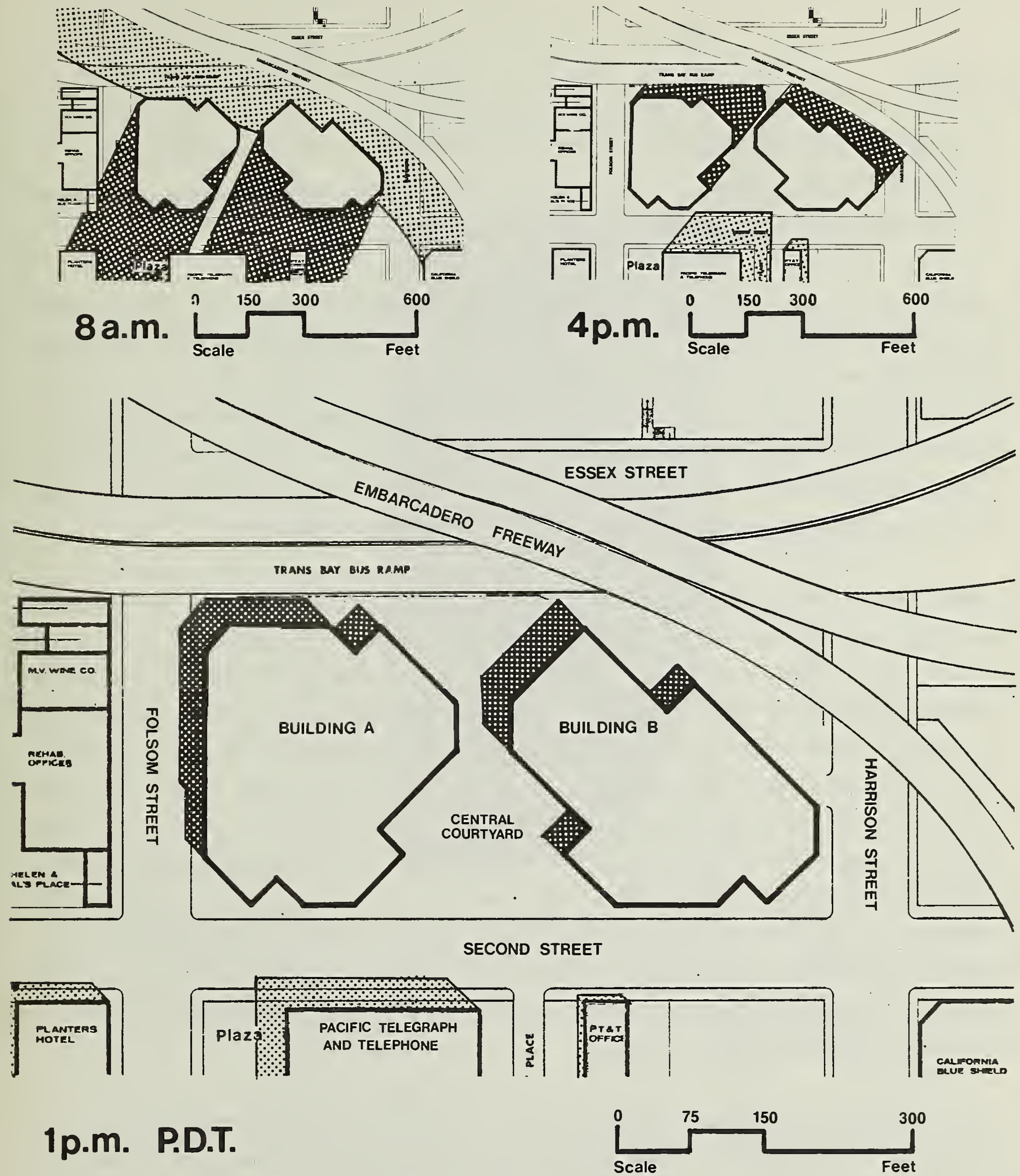


Shadow Patterns March 21/September 21

Existing Shadows

Shadows Added by Proposed Project

• Figure No. 31



Shadow Patterns
June 21

North

Existing Shadows

Shadows Added by Proposed Project

• Figure No. 32

G. NOISE

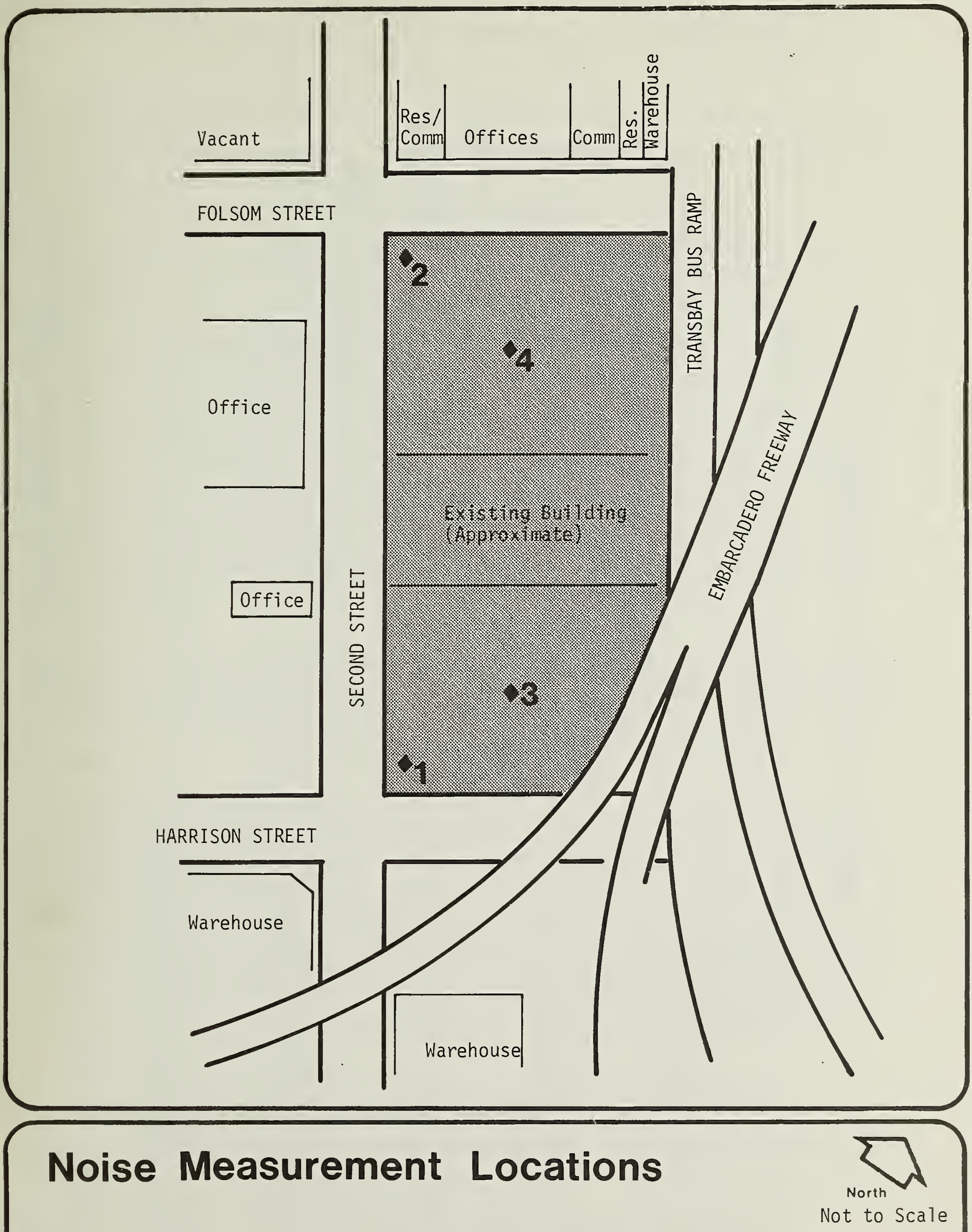
1. Construction Noise Impacts

To quantify the noise environment on the project site, noise measurements were made at the locations shown on Figure 33, page 91.

Location No. 1 is representative of the noise exposure of the proposed building facades facing Second and Harrison Streets. Location No. 2 is representative of the noise exposure of the proposed building facades facing Second and Folsom Streets. Location No. 3 is representative of the freeway and bus ramp noise exposure of the ground floors of proposed Office Building B. Location No. 4 is representative of the bus ramp and Folsom street traffic noise exposure of the ground floors of proposed Office Building A. The data obtained during the measurements are summarized in Table 18, page 92.

Construction of the Second and Folsom office building would take place in 3 phases: demolition and excavation (2 months duration), foundation construction (2 months duration), and building erection (15 months duration). Construction noise levels would fluctuate depending upon the following variables: the phase of construction, its duration, the type or types of equipment used during each phase, the noise emitted during the noisy mode of any particular item or items of equipment in use, the number of hours in a day during which the equipment would be operated in this noisy mode, the mobility of the equipment (e.g., the noise source may be a stationary air compressor or a self-propelled backhoe), the distance between the noise source and the receptor, and the noise propagation characteristics of the path between the noise source and the receptor (e.g., shielding by barriers or intervening buildings will result in a reduced noise level at the receptor). The worst case noise impacts associated with the various phases of construction have been estimated for this study.

During excavation, bulldozers, graders, haul trucks and front end loaders would be expected on the project site. These pieces of equipment generate from 70 to 85 dBA at 50 feet. During foundation construction, the major noise source would be concrete pumping trucks. These trucks generate noise levels of up to 85 dBA at 50 feet. After foundation construction concrete pumpers, power saws, cranes, air compressors, generators, and impact torque wrenches would be the major noise sources. These pieces of equipment emit from 70 to 95 dBA at 50 feet. This phase would last through the first



Noise Measurement Locations

Figure No. 33

TABLE 18

Results of On-Site Noise Measurements

Site No.	Location[1] (See Figure 33)	Day and Time of Measurement	L_{eq}[2]	L_{max}[3]	Comments
1	25 feet from edge of Second St. and 25 feet from edge of Harrison St.	12 May 1981 10:21-10:26 am	72	88	Freeway is background; peaks due to buses, trucks
		12 May 1981 4:30-4:45 am	72	84	Local traffic is dominant
2	25 feet from edge of Second St. and 25 feet from edge of Folsom St.	12 May 1981 10:30-10:35 am	73	87	Freeway at 63-64 dBA; local traffic dominant
		12 May 1981 3:30-3:45 pm	72	85	Local traffic dominant
3	100 feet from Harrison St. and 100 feet from Transbay bus ramp	12 May 1981 10:45-10:50 am	72	80	Freeway is dominant; peaks due to buses, trucks
		12 May 1981 4:10-4:25 pm	72	82	Bus ramp is dominant; peaks from local traffic
4	100 feet from Folsom St. and 100 feet from Transbay bus ramp	12 May 1981 3:50-4:05 pm	67	81	Local traffic dominant; buses on ramp are shielded

[1]Noise measurements were not made 30 feet from the elevated freeway because the shielding provided by the freeway structure would lead to an erroneous result for the noise exposure of the upper floors of a multiple story building.

[2]The L_{eq} is the equivalent steady-state sound level, in dBA, which, in a given period of time, would contain the same acoustic energy as the time-varying sound level during that same time period.

[3]The Maximum instantaneous sound level, in dBA, observed during this sample period.

Source: Charles M. Salter Associates, Inc.

year of construction. Noise from impact wrenches, used intermittently during the framing of buildings, has been measured[1] at construction projects in downtown San Francisco at up to 95 dBA at 50 feet.

The occupied land uses near the proposed site are office buildings on Second Street, warehouse activities on Harrison Street, and a combination of office, commercial, residential (6 units), and vacant buildings on Folsom Street (see Figure 3, page 13). The PT&T office building on Second Street across from the project site has a building facade where approximately 10% of the surface is glass in the form of windows. This building houses the wire center (i.e., mechanisms for telephone switching) for San Francisco. There are few offices in this building; it is principally filled with equipment. During the use of impact wrenches, the noisiest construction operation, noise levels outside this office building would reach as high as 89 dBA. Maximum noise levels inside the building would be expected to reach about 59 dBA in offices with windows. PT&T does not anticipate any problems with either noise or vibration from construction activities upon the wire center.[2]

The noise of impact wrenches would be noticeable (up to 5 dBA over present maximum levels) inside the affected offices and could annoy and distract office workers. The noise of impact wrenches would not interfere with ordinary use of the telephone by these workers.

Several buildings along Folsom Street have operable windows and relatively large glazed areas. If windows were opened, the expected exterior/interior noise reduction would be approximately 15 dBA. Maximum noise levels inside the buildings when impact wrenches were to be used would be expected to reach about 74 dBA. The noise inside these buildings could be expected to annoy and distract office workers and residents. Conversations would have to take place at a higher vocal level. Telephone use would be difficult. Noise would be a particular problem to the PT&T offices which house their marketing offices.

No other residential uses were identified in the potential impact area of the project. This area, is estimated to include locations within 800 feet of the project, based upon a

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[1] Charles M. Salter Associates, San Francisco, California, unpublished data, 1979.

[2] Lou Meylan, Engineering Manager, PT&T, telephone communication, 10 September 1981.

project-generated noise source of 95 dBA, and an attenuation rate of 6 dBA for each doubling of distance.[1] The attenuation rate is applicable to line-of-sight; since there is much shielding in this area the estimate of the impacted area is quite conservative.

At the warehouse area along Harrison Street, noise levels generated by impact wrenches would also reach 89 dBA. Warehouse facilities are not generally noise-sensitive land uses and there would be little or no expected interference with normal activities in these buildings. Where the windows of any offices facing the site in these buildings would be open some activity interference could be expected.

During the remainder of construction, noise levels at any of the adjacent buildings would be expected to exceed 65 dBA in the buildings located on Folsom Street or 50 dBA inside the offices fitted with windows located on Second Street. At these noise levels, construction noise would be audible and could interfere with communications in the buildings along Folsom Street, but would not be expected to interfere with the use of the offices on Second Street.

The proposed Bridgemont School at Third and Harrison Streets would be over 1,000 feet from the construction activities. At this distance, construction noise would be masked by local traffic noise.

Construction noise in San Francisco is also regulated by the noise ordinance. The ordinance requires that all powered construction equipment except impact tools and equipment emit no more than 80 dBA when measured at a distance of 100 feet. Impact tools and equipment including pavement breakers, jack-hammers, and pile drivers must have intake and exhaust mufflers as approved by the City Director of Public Works. The ordinance requires a special permit for construction after 8 p.m. and before 7 a.m.

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[1] Rau, J. and D.C. Wooten, Eds. Environmental Impact Analysis Handbook, McGraw Hill, New York, 1980.

2. Compatibility with the Existing Noise Environment

The Transportation Noise Plan of the Comprehensive Plan of the City and County of San Francisco[1] and Title 25 of the California Administrative Code[2] contains guidelines for determining the compatibility of various land uses with respect to outdoor noise environments. Above an Ldn (defined on page 48) of 75 dBA, new construction or development should generally be discouraged. If new construction or development does proceed, an analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Based upon previously collected data in this area and upon the data collected on-site, the noise exposure for proposed Building A on the freeway/ramp-facing portion of the building would be an Ldn of 72 dBA at ground level; the noise exposure at upper levels (Floors 3-11) of this building would be an Ldn of 80 dBA. The noise exposure of proposed Building B on the freeway/ramp-facing portion of this site would be an Ldn of 72 dBA at ground level; the noise exposure at upper levels (Floors 3-11) of this building would be an Ldn of 83 dBA. The noise level at floors 3-11 would be higher because those floors would have a direct line-of-sight to the freeway and ramps, while floors 1 and 2 would not. This project would fall into the Ldn greater than 75 dBA category (see Table 18, page 92) and therefore requires an analysis of required noise reduction and needed noise insulation features.

The proposed project would have fixed windows and would be mechanically ventilated. Building facades with "standard" fixed windows would reduce exterior noise by about 30 dBA. As the maximum noise exposure of these buildings would occur at the upper floors (3-11) overlooking The Embarcadero Freeway and the Transbay bus ramps (an exterior Ldn of approximately 80-83 dBA), it is expected that inside the nearest offices, the Ldn would be approximately 50-53 dBA. Instantaneous maximum interior sound levels of up to 60 dBA would be expected as trucks and buses pass on nearby roadways. Offices below the freeway or ramp level, or facing Second, Folsom or Harrison Streets, would be exposed to an exterior Ldn of about 72 dBA. Interior noise levels in these offices would be an Ldn of approximately 42 dBA. Instantaneous maximum noise levels in these offices would reach 58 dBA during truck and bus passbys on Second Street.

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[1] Plan for Transportation Noise Control, a section of the Environmental Protection Element, adopted September 19, 1974.

[2] Title 25, California Administrative Code, Section 725-28, e-2.

Since nighttime noise control is not important in office buildings, the Leq (defined in Table 18, page 92) during the noisiest daytime hours is the appropriate design parameter. The Ldn is equivalent to the Leq during the noisiest daytime hours in noise enviroment controlled by traffic noise. The following Leq were determined from the Ldn's discussed in the previous paragraph, using these assumptions.

An Leq of 45 dBA is considered the upper limit of acceptability for traffic noise in a private or semiprivate office or small conference room where good listening conditions are desired. Since the Ldn inside would be 42 dBA (the Leq inside the offices facing Second, Folsom and Harrison Streets), 42 dBA would be compatible with these uses. The predicted instantaneous maximum levels of up to 58 dBA could interrupt a speaker talking in a normal tone of voice in a small conference room.

An Leq of 50 to 53 dBA, the predicted exposure of the offices facing the freeway and bus ramps, would be at the upper limits of acceptability for large offices, general secretarial areas, drafting and engineering rooms, and reception or lobby areas. The predicted instantaneous maximum levels of up to 60 dBA could interrupt a speaker talking in a normal tone of voice.

Reduction of interior noise generated by traffic on The Embarcadero Freeway and the Transbay bus ramps would be required to achieve an acceptable acoustical environment in the offices facing those transportation arteries. In accordance with the Transportation Noise section of the Conservation Element of the Comprehensive Plan of the City and County of San Francisco, an analysis of noise reduction requirements and needed noise insulation features would be conducted, as portions of the proposed buildings would be exposed to noise levels up to 83 dBA, Ldn.

3. Noise Impact on Adjacent Land Uses

Post-construction operation of the Second and Folsom office building could affect the existing acoustic environment in the area in three ways: by generating additional traffic in the vicinity, contributing to an increase in overall traffic noise levels; by adding to the noise environment the sounds of mechanical equipment associated with the building; and by shielding existing land uses from noise generated by traffic on The Embarcadero Freeway and the Transbay bus ramps.

The amount of traffic generated by the project during any hour of the day would cause noise levels to increase by less than 1 dBA on any of the adjacent streets. A 1 dBA increase in the usual urban environmental noise is undetectable to the human ear.

Although the mechanical equipment to be used at the proposed building has not yet been chosen, the amount of noise that may be emitted by this equipment is regulated by San Francisco's noise ordinance. The noise ordinance requires that noise from mechanical equipment at the proposed building not exceed 60 dBA at the property line of the property affected by the noise emission. This level would be at or below the existing background noise level in the vicinity of the site and no increase in noise levels due to mechanical equipment would be expected.

Construction of the proposed buildings would provide shielding of freeway/ramp noise for existing land uses on Second Street opposite the site. The extent of this shielding would probably amount to 5-10 dBA. However, because noise levels along Second, Folsom and Harrison Streets are controlled by traffic on those streets, it is not expected that the reduction in the freeway/ramp noise contribution would reduce overall noise levels along these streets.

H. ECONOMIC AND FISCAL IMPACTS

1. Asessed Valuation and Property Tax

Based on replacement costs, the minimum fair market value of the proposed project would be approximately $63 million in 1981 dollars. Assuming the property would be assessed on the basis of the full replacement costs, the assessed value of the project would be the estimated fair market value. Total annual property tax would be $631,000 at 1% of full value allowed under Proposition 13 (or $4.00 per $100 assessed value assuming that the City recalculates the assessed value to be 25% of the fair market value), plus an additional levy for repayment of existing bonds previously approved by the electorate (the current total rate for the 1980-1981 fiscal year is $4.92 per $100 assessed value assuming that the City recalculates the assessed value to be 25% of the fair market value), leading to a total of $780,000.

It is not known at present how the property taxes would be distributed in the fiscal year 1983-1984 (estimated year of completion). Applying the 1980-1981 tax rate, San Francisco could receive from $536,000 to $660,000 from the project (85% of the total composite property tax revenues). Subtracting the market value of the existing land and improvements, which total about $1.9 million, the net addition to the San Francisco property tax base would be about $61 million. The net increase over existing composite property tax revenues to San Francisco would be between $520,000 and $640,000.

2. Other Local Revenues

The project would generate new payroll, business, sales and utility users taxes which would accrue to San Francisco. Table 19, page 99, contains a summary of estimated project-generated tax revenue.

Potential increased revenues to San Francisco could range from $923,000 to $1,071,000; this range is subject to a number of variables that could affect the estimate, including:

- Property tax distribution could change in the ensuing years.
- Payroll tax could vary according to the distribution of salaries of the employees in the proposed project.
- The estimated volume of sales in the commercial space could change.
- Rents could increase, affecting the gross receipts tax.
- Costs for utilities, particularly telephone, gas, and electricity, tend to increase.
- Other types of assessment taxes could be passed by voters for raising funds to help pay for increased transit costs, municipal services, etc.

In addition, there are indirect revenues that could accrue to San Francisco in the form of sales tax from items purchased by those employees at the proposed project who are filling new jobs in San Francisco (i.e. people obtaining employment in San Francisco for the first time).

3. Municipal Costs and Net Revenues

Costs to San Francisco for providing municipal services to the proposed project are difficult to quantify. Existing services near the site can accommodate the proposed project without additional facilities and/or manpower, assuming that the project is constructed in accordance with the public codes.[1] Existing public works costs for street repair, drains, street lighting and cleaning would not measurably increase.[2] Police and

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[1]There is a possibility that water mains may have to be enlarged to increase capacity (see Section IV.I., page 101). In such an event the project sponsor would pay for improvements.

[2]John Hines, Deputy Director Operations, San Francisco Public Works Department, telephone conversation, 17 August 1981.

TABLE 19

Estimated Project Revenues at Full Occupancy
(1981 Dollars)

	Total	Gross City/County[1]
Property Tax[1]	631,000 to 776,000	536,000 to 660,000
Payroll Tax[2]	276,000	276,000
Sales Tax[3]	152,000 to 186,000	23,000 to 29,000
Gross Receipts Tax[4]	53,000 to 71,000	53,000 to 71,000
Utility Users Tax[5]	35,000	35,000
	$1,147,000 to 1,344,000	923,000 to 1,071,000

[1]Assumes property tax distribution as in 1980-1981; it may be different in ensueing years. In addition to the City of San Francisco, the San Francisco Unified School and Community College Districts, Bay Area Air Quality Management District and BART would also receive property tax revenues. The ranges in both columns of the table are based on the assessed value of the property (the lower figure in each column which is $4.00 per $100 assessed value assuming that the assessed value is 25% of the fair market value) and the bond payments (which are currently $0.92 per $100 assessed value assuming that the assessed value is 25% of the fair market value). The bond rate would change as the bonded indebtedness is retired.

[2]Estimated on $487,000 business tax revenue for every million square feet of new office space. Gruen + Gruen and Associates, Fiscal Impact of New Downtown Highrises on City and County of San Francisco, March 1981, p. 116.

[3]Estimated on 6½% of sales tax; San Francisco collects 1% of total sales. Range is based on $90 to $110 of gross annual sales per square foot.

[4]Based on net rentable space at $30 to $40 per square foot, at the rate of $3.00/$1,000 of gross rental receipts.

[5]Utility users tax revenue is paid on the cost of electricity, gas, water, and telephone usage. Revenues from office buildings average about $62,000 per million square feet of space. Gruen + Gruen and Associates, Fiscal Impacts of New Downtown Highrises on the City and County of San Francisco, San Francisco, March 1981, p. 120. Using this ratio, the project would yield about $35,000.

fire protection costs would not increase due to the proposed project;[1] however, cumulative costs could increase due to downtown growth.[2] User charges for water and sewer service would cover the cost for the expansion of such services.[3]

Cost increases due to increased patronage would be expected for Muni, SamTrans, BART, and Golden Gate Transit. Capacity increases (see Section IV.E.3, page 72) are based on the anticipated revenues projected by the transit districts.

The City's general fund provides a subsidy to the Municipal Railway's operating budget. The subsidy covers the difference between Muni's costs and the revenue that Muni receives from fares and from the federal and state governments. This subsidy represents the costs of Muni to the City.

The net marginal cost (or increase in the deficit for Muni operations) per peak hour ride is \$0.39 in 1981.[4] The proposed project would generate about 1,260 peak hour trips (see Table 7, page 69) which would create the need for a general fund subsidy to Muni of \$127,800.[4]

It is estimated that 660 peak hour trips a day would be generated by the proposed project employees on BART. The deficit per rider for BART is estimated at \$1.61.[5] Using this rate, the proposed project would generate about \$276,300.

If the historic proportion of General Fund revenues continued to be allocated to Muni, it could be assumed that the proposed project revenues would exceed municipal cost directly

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[1]Paul Libert, Officer, Planning and Research, telephone conversation, 15 May 1981; Joseph Sullivan, Chief, Support Services, San Francisco Fire Department, letter, 21 May 1981. At present, neither the police nor the fire departments have a methodology to determine the actual costs for increased development on a marginal cost basis.

[2]The Gruen + Gruen Report (Fiscal Impacts of New Downtown High-Rises on the City and County of San Francisco, March 1981) indicates that the current cost of the Fire Department are \$62,564 per million square feet and the current cost of Police Department Services are \$98,330 per million square feet (pages 35 and 55).

[3]Cy Wentworth, Water Estimator, City Distribution Division, San Francisco Water Department, telephone conversation, 26 May 1981, Nat Lee, Investigations Specialist, Sanitary Engineering, San Francisco Clean Water Program, telephone conversation, 15 May 1981.

[4]Bruce Bernhard, "The Marginal Cost of Peak Period Muni Passenger Trips per Unit of Office Space," San Francisco Utilities Commission, February 1981. \$1,260 x 38¢ x 260 working days a year = \$127,800.

[5]101 Montgomery Final EIR, EE.80.26, certified 7 May 1981, \$1.61 x 260 working days per year x 660 = \$276,300.

attributed to the project at time of occupancy. Due to limitations imposed by Proposition 13 on property tax increases, revenues may not increase as rapidly as inflationary increases in City costs. At some time in the future City costs could be more than revenues, if office growth in San Francisco does not continue.[1]

Several studies of the cumulative fiscal effects of downtown development have been done by experts, and results differ depending on the assumptions used. A summary comparison of the studies is provided in Appendix E, page A-56.

I. COMMUNITY SERVICES

1. Police[2]

The project area is serviced by 24-hour patrol cars of the San Francisco Police Department. There is no foot patrol. Minimum response time to the project area is approximately 3 minutes.

The project is not expected to generate a need for additional police services. Crime is low in the project area due to the low opportunity for crime and the low permanent population in the area. The increasing development of office buildings in the South of Market area could cause an increase in commercial burglaries. A footbeat may be added to the current patrol at the completion of the George Moscone Convention Center.

2. Fire[3]

Minimum response time to the project site by the San Francisco Fire Department is less than 3 minutes.

Implementation of this project would not require additional staff or equipment. The buildings would have to comply with Section 3805.D.6 of the San Francisco Building Code. One of the requirements of Section 3805.D.6 is that fire pumps providing a

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[1] 101 Montgomery Street EIR, EE 80.26, Certified 7 May 1981, Appendix C, pages 289-329.

[2] Paul Libert, Officer, Planning and Research, telephone conversation, 15 May 1981 and 11 August 1981.

Reporting area 620 had 93 incidents of crime reported during the first 6 months of 1981, 13 of which were commercial burglaries. This reporting area was the 4th lowest of the 18 reporting stations in Southern District Station. San Francisco Police Department has 9 district stations, Southern Station had the 4th highest rating of reported crime for the first 6 months of 1981. Data from Paul Libert, Officer, Planning and Research, telephone conversation, 11 August 1981.

[3] Joseph Sullivan, Chief, Support Services, San Francisco Fire Department, letter, 21 May 1981.

minimum of 750 GPM flow be installed in the building. A preliminary flow test conducted 15 August 1980 of the existing water mains serving this area indicated that obtaining this quantity of water could be a problem.

3. Water[1]

Estimated water demand for the project would be 76,000 gallons per day (gpd).[2] Water supply would be adequate to supply the project's needs.

- The City of San Francisco annually consumes 80% of the amount of water consumed annually during the drought (1976).[3] The San Francisco Water District's existing Facilities can supply 300 mgd, however, the current demand is only for 254 mgd. Thus, the cumulative demands for water can be adequately met.

- While an increase in excavation acitvity would increase the opportunity for accidents, increased connections for highrises and the subsequent water demands do not affect the capability of the water system to supply water. Construction requiring large excavations of 30-40 feet, if not properly shored, may cause subsidence in streets. Depending on proximity to the excavation, utilities could then be damaged. Building contractors prepare surveys to determine if there is subsidence betow the streets in order to reduce the possibility of damaging utilities during major excavation. Samll breaks in mains take approximately 4 to 6 hours to repair.[3] The location of utilities are marked prior to construction.

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[1]Cy Wentworth, Water Estimator, City Distribution Division, San Francisco Water Department, telephone conversation, 26 May 1981.

[2]Water Demand Estimate:

Retail/restaurant use of 200 gallons per day and office use of 125 gallons per day (per 1,000 square feet of usable floor space).

Brown & Caldwell Consulting Engineers, 1972, Report on Wastewater Loading from Selected Development Areas, as cited in San Francisco City Planning Commission and San Francisco Redevelopment Agency, 1978, Final Environmental Impact Report/Yerba Buena Center, EE 77.220, certified 25 April 1978.

[3]Gene Kelleher, General Manager and Chief Engineer, San Francisco Water Department, telephone conversation, 18 January, 1982.

- Domestic and fire fighting water are fed through separate low and high pressure mains. The high pressure mains also have an emergency system which pumps water from the bay and ocean for fire fighting purposes. Fire flow tests conducted for this project determined that the existing high pressure main was inadequate to serve the proposed project. Fire flow water demand does place stress on the ability of old high-pressure mains, or mains of inadequate size, to supply adequate amounts of water. Replacement cost of the mains are born by project developers. Thus, old inadequate fire fighting mains are replaced on a project-by-project basis. Upgrading of these high pressure mains reduces the potential of breakage during a very strong earthquake. However, pipes may break within buildings during earthquakes, thereby diminishing water pressure on the streets.[1]

- Domestic water pressure fluctuates with demand. Cumulative growth in the downtown necessitates more of a need to replace domestic mains. Pressure recordings of domestic mains are periodically conducted to determine the adequacy of water mains. The Water Department is responsible for the replacement of water mains in order to meet normal domestic water demands. This cost would be borne by the Water Department. It should also be noted that the physical weight of buildings does not impact the network of water or sewer mains.[1]

4. Sewer

The proposed project would generate approximately 70,800 gallons of wastewater each day.[2] The San Francisco Clean Water Program states that the sanitary system has sufficient capacity to serve this project.[3]

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[1]Gene Kelleher, General Manager and Chief Engineer, San Francisco Water Department, telephone conversation, 18 January, 1982.

[2]Office use of 125 gallons per 1,000 square feet of usable floor space.

Brown & Caldwell Consulting Engineers, 1972, Report on Wastewater Loading From Selected Development Areas, as cited in San Francisco City Planning Commission and San Francisco Redevelopment Agency, 1978, Final Environmental Impact Report/Yerba Buena Center, EE 77.220, certified 25 April 1978.

[3]Nat Lee, Investigations Specialist, Sanitary Engineering, San Francisco Clean Water Program, telephone conversation, 15 May 1981.

- San Francisco's water and sewage systems are adequate and capable of meeting the demands for service generated by cumulative office growth. San Francisco Clean Water Program is currently englarging the capacity of treatment plants. The combined sewer system in the South of Market area is also being brought up to grade.[1]

5. Solid Waste

- The project is projected to produce 3.8 tons of solid waste daily.[2] It is projected that by 1984, San Francisco will have 62.4 million square feet of office space. Cumulative solid waste generated by downtown office buildings would then be 300 tons per day.[3] Of this amount, 40 to 60% is high grade paper and can be reycled. Local paper recyclers contract to office buildings to buy used white bond paper. In addition, approximately 50 tons of waste paper is recycled daily from the Financial District by an affiliate of Golden Gate Disposal Company.[3]

- Several recycling programs have begun in the City and two additional pilot programs will start up in the spring of 1982. These efforts would combine to reduce cumulative impacts on solid waste disposal sites. The City is also considering the construction of an energy recovery plant at the Tunnel Avenue transfer station which would recover about 50 to 60 tons of ferrous materials per day. The scavenger companies would continue to divert newspaper from the landfill or proposed recovery plant. A landfill site would be required during construction of the energy recovery plant, as well as to serve as the back up and for the anticipated 40% recovery plant residual. Future landfill sites under consideration are in Altamont, Vacaville, Oxnard Mountain and Mountain View.[4] The effect of cumulative development on solid waste disposal facilities cannot be determined until plans are finalized for disposal after expiration of the present landfill contract in 1983.[5]

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[1] Nat Lee, Sanitary Engineering, San Francisco Clean Water Program, telephone conversation, 15 January, 1982.

[2] Total gross square feet of floor area x 1 pound per 100 gross square feet per day = pounds per day. State of California Solid Waste Management Board, 1974, Solid Waste Generation Factors in California.

[3] David Cohen, Special Projects, Chief Administrator's Office, City of San Francisco, telephone conversation, 14 January 1982.

[4] David Cohen, telephone conversation, 20 November 1981.

[5] San Francisco Department of City Planning, 101 Montgomery Street FEIR, EE80.26, certified 7 May 1982.

J. ENERGY

Implementation of the proposed project would lead to energy consumption for 4 primary purposes: construction, operation and maintenance, project generated traffic, and project removal.

1. Construction

Based on a construction cost of $50 million (1981) dollars, it is estimated that project construction would consume 200 billion BTU[1] of energy in the form of gasoline, diesel fuel, electricity and lubricants.[2] This is the equivalent of 37,000 barrels of oil.[3]

2. Operation

Energy for the project would be supplied by Pacific Gas and Electric which obtains its power from oil, natural gas, coal, nuclear, hydroelectric and geothermal sources.

The gas and electrical consumption estimates for this project are based on the following assumptions.

- All exterior walls and the roofs would be insulated to conform with Title 24 (California Administrative Code) requirements.
- A connected lighting load of 1.75 watts per square foot.
- The structure would incorporate a cooling system, operated by electricity and with an energy efficiency ratio of 7.5.[4]
- Natural gas would be used for space and water heating.
- The building hour by hour occupancy profile would be as specified by Title 24.[5]

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[1]BTU (British Thermal Unit): A standard unit for measuring heat. Technically, it is the quantity of heat required to raise the temperature of 1 pound of water 1° Fahrenheit (251.98 calories) at Sea Level.

[2]Tetra Technology, Inc. Energy Use in the Contract Construction Industry. Appendix A, Study Methodology, Springfield, Virginia, NTIS, 18 February 1975, page 3. The conversion ratio used was 4,000 BTU/1981 dollar.

[3]Energy conversion factors:
1 gallon gasoline = 125,000 BTU
1 gallon diesel = 140,000 BTU
1 gallon lubricating oils = 145,000 BTU
1 barrel crude oil = 5.6 million BTU
1 KWH = 10,239 BTU assuming operational efficiency of 33% for fossil or nuclear fueled power plant.

[4]Energy Efficiency Ratio (EER) = The ratio of heat removed in BTU/hour to the electrical input in watts. Thus, removal of 7,500 BTU would require the use of 100 watts for one hour.

[5]California Energy Commission, Conservation Division, Regulations Establishing Energy Conservation Standards for New Non-residential Buildings as Amended July 26, 1978, Sacramento, 1978, page 5.1.18-5.1.20.

a. Electricity

The project's estimated average monthly electrical consumption would be 550,000 kilowatt hours (kwh), equivalent to 0.76 kwh per square foot of floor area. This is equivalent to 5.6 billion BTU per month, equivalent to 1,000 barrels of oil per month of non-renewable energy burned at the source assuming fossil and nuclear generation of 4.6 billion BTU per month, equivalent to about 820 barrels of oil per month burned at the source based upon a generating mix which includes 19% hydroelectric in addition to fossil and nuclear generation.[1] Daily and annual load distribution curves are shown in Figure 34A, page 105. The September-October peak in electrical consumption items is from increased air conditioning loads caused by the departure of the summer fog and the increased sunlight and warmth that San Franciscans perceive as "Indian Summer." The project's estimated connected load is 2,400 kilowatts.

b. Natural Gas

The estimated average daily natural gas consumption for the proposed project is 33 BTU per square foot of floor space. The magnitude of the estimated peak natural gas demand for the project is 5.6 million BTU (56 therms) per hour. This is the energy equivalent of 1 barrel of oil. Daily and annual load distribution curves for natural gas use are given in Figure 34B, page 105.

The project's average monthly gas consumption would be 720 million BTU. This would be about one-eighth of its average monthly electrical energy consumption.

The project's gas and electrical use would vary with tenant types. Electrical devices produce considerable heat which must be removed by the air conditioning system, resulting in greater electricity use and lowered gas use. Tenants with computers or other heat generating electrical devices would use more energy than those without such devices. The figures quoted above make no assumptions regarding energy use by such devices because state law (Title 24) covers only energy use for space and water heating, lighting, air conditioning and ventilation, in recognition of the unpredictability of tenant use of computers and other electrical equipment.

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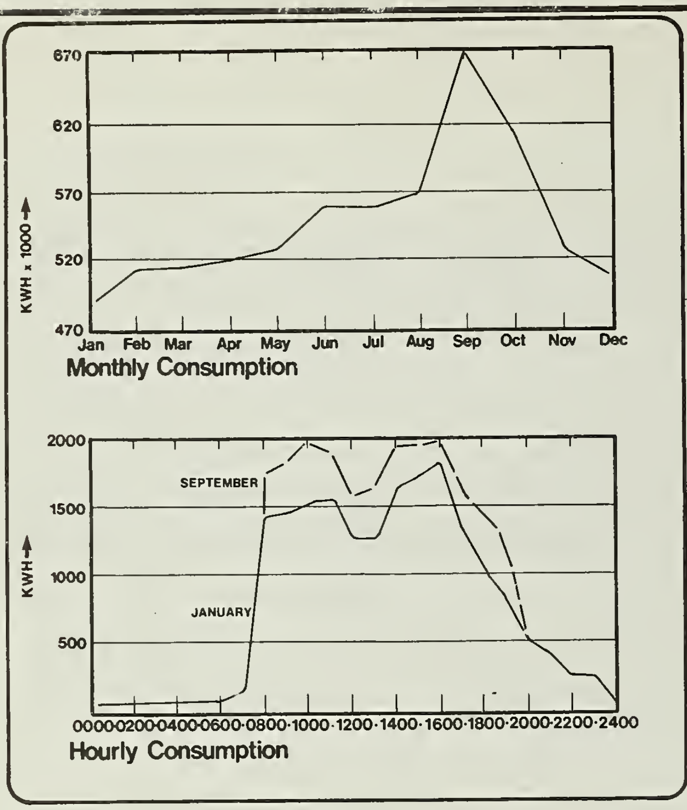
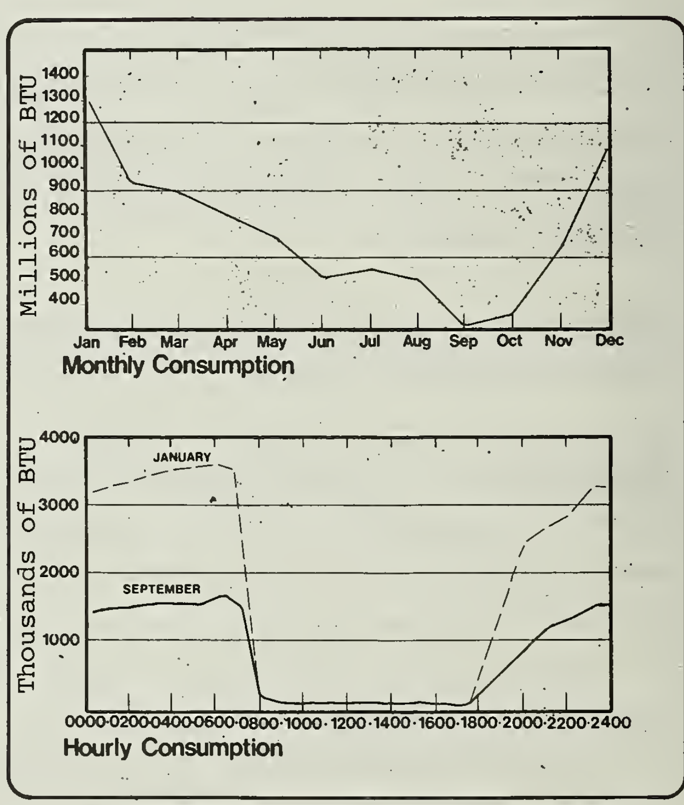
[1]Pacific Gas & Electric Annual Report to Stockholders 1980, San Francisco, California.



A. ELECTRICAL

B. GAS



Energy Consumption

Figure No. 34

The total annual energy use for all purposes, obtained by adding the annual gas and electricity use figures, would be 76 billion BTU.

c. Transportation

Based on an estimated annual increase in regional Vehicle Miles Traveled (VMT) of 2.2 million resulting from project generated traffic, and assuming an average auto efficiency of 20 mpg, the annual auto transportation energy consumption would be 110,000 gallons of gasoline, equal to 1.4×10^{10} BTU or 2,500 barrels of oil. This would be about 13% of the structure's estimated annual operational energy use. Energy consumed for bus, rail and ferry transit would be in addition to this figure.

3. Removal

It is difficult to predict the energy efficiency of demolition equipment and techniques of 50 years hence, since future technology would probably be more efficient.

4. Solar Considerations

The project sponsor proposes to include an atrium on the plaza to augment the structure's heating system by the "greenhouse" effect. Each square foot of glass would lose heat at a rate of about 1 BTU per square foot per hour per degree F. temperature difference between the inside and outside of the glass. On a typical San Francisco day this difference would be about 10 degrees, hence the atrium would lose 10 BTUH[1] per square foot. The solar energy influx would be about 200 BTUH/sq. ft. for sunlight perpendicular to the glass, and less for lower angles. The atrium would collect up to 190 net BTUH per square foot of glass on sunny days. The atrium faces southwest and would collect sunlight from noon to 6:00 p.m year around. In this way, the atrium could collect about 1 billion BTU annually of solar heat. In the absence of sunlight, the atrium would lose 1 BTU per hour per square foot, or almost 10 BTUH per square foot on a typical day. This is about 25 times the heat loss rate through the insulated walls.

On the whole it appears that the atrium could potentially share part of both the cooling and heating loads of the building if the HVAC system is designed with the appropriate mechanical equipment to take advantage of its transmission of heat to and from the

[1]BTUH = BTU per hour.

outside under different conditions. At this stage the design details which are required in order to calculate the actual costs and benefits of the atrium on overall energy consumption are not available; they will be considered in detail when the mechanical systems of the building are fully designed.

5. Title 24 Requirements

New non-residential construction initiated after July 1978 is required to comply with Title 24, Division 20, Article 2 of the California Administrative Code, regarding Energy Conservation Standards for new non-residential buildings. These regulations set forth design criteria for buildings and stipulate maximum allowable energy consumption figures.

Title 24 regulations set a maximum allowable energy consumption for non-residential buildings with an occupancy of over 300 persons of 126,000 BTU per gross square feet of heated and cooled floor space per year.[1] The estimated figure for this project is 106,000 BTU per gross square foot per year, based on the assumptions in this section. Title 24 requires that the structure's energy budget be analyzed in greater detail by an independent consultant prior to the issuance of a building permit.

K. HISTORICAL AND CULTURAL RESOURCES

The M.G. West building is not listed in the San Francisco listing of Architecturally and/or Historically Important Buildings.

Site disturbance by building, grading and filling activities over the years lessens the possibility for the presence of aboriginal or historical artifacts on the site. It is known that at least 1 building once located at the project site contained a basement. Excavations required for foundations on the project would not be more than 10 feet below the surface and probably would not exceed depths of basements. However, it is impossible to rule out the possibility of encountering artifacts during project development.

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[1] California Energy Commission, "Maximum Allowable Energy Consumption Per Year", Energy Conservation Standards for New Nonresidential Buildings, Sacramento, June 1977, A.3.16.

L. GEOLOGY AND SEISMICITY

Placement of fill and the proposed spread footing foundations would require design and construction procedures for both bedrock-supported and fill-supported structures.[1]

Seismically, the site is relatively stable. Estimates of "strong" intensity of future groundshaking are based on a seismic event similar to that of the 1906 San Francisco earthquake.[2] The project area is in a seismically active region which annually experiences low to moderate magnitude earthquakes epicentered within the major fault zones. In 1979, a moderate earthquake (Richter magnitude 4.2) occurred along the San Andreas Fault and 2 moderate earthquakes (Richter magnitudes 4.8 and 5.9) occurred along the Calaveras Fault.[3] Three earthquakes of Richter magnitude 5.5 to 5.9 occurred along the Calaveras Fault in 1980.[4] Based on records of previous earthquakes, the groundshaking at the site during a seismic event the size of the 1906 San Francisco earthquake (Richter magnitude 8.3) would be "strong," involving cracking of masonry and brick work. Groundshaking intensity would vary from strong to violent within a 3-block radius of the project site.[5]

For planning purposes, it is reasonable to assume a 59 to 105-year return period for this type of earthquake.[5] Since the bedrock on which the project would be founded is hard and strong below the 7- to 16-foot thick, highly fractured zone, ground motion would be of

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[1]Bowers, J.P. and H.T. Taylor Geotechnical Investigation, Second and Folsom Project, San Francisco, California, Harding-Lawson Associates, San Francisco, California, 3 September 1980, page 7.

[2]John A. Blume and Associates, San Francisco Seismic Safety Investigation, San Francisco, California, June 1974, page 14 and Figure 3.

[3]Earthquakes in the United States, 1979, U.S. Geological Survey Circular 836, 1980-1981, page B19, C19, C27.

[4]Preliminary Determination of Epicenters, Monthly Listings, U.S. Geological Survey, 1980-1981.

[5]Shedlock, K.M., R.K. McGuire and D.G. Herd, Earthquake Recurrence in the San Francisco Bay Region, California from Fault Slip and Fault Moment, U.S. Geological Survey, Open-File Report 80-999, 1980.

fairly low amplitude with correspondingly little damage to structures.[1] Nonstructural elements, such as bookcases, free-standing wall partitions, hung ceilings or hanging light fixtures, could become personal hazards during a major earthquake if not properly secured to prevent falling. The structures would be designed to meet the seismic standards of the San Francisco Building Code.

To reduce direct hazard from groundshaking, non-structural elements such as hanging light fixtures, hung ceilings, wall partitions bookcases and mechanical equipment would be firmly attached to prevent their falling during an earthquake, as required by the San Francisco Building Code.

Hydrologically the site is nearly impermeable since it is an asphalt-surfaced parking lot. Groundwater was observed at elevation 34 feet SFD in 1 bore hole drilled on the site and seepage was observed within 4 feet of the ground surface (elevation 47 feet SFD) in many other bore holes. Seepage observed in bore holes indicates that a subsurface drainage system would need to be installed around the basement walls and directly beneath the ground floor slab to prevent caving.

The water table would need to be lowered between 6 and 7 feet at the north end of the site to allow construction of the foundation. Since the soil is fairly impermeable sandy clay, water percolation is slow. Localized water-table lowering could be controlled with on-site sump pumps and an impermeable shoring system. There would be no need for deep wells to dewater the surrounding area and no danger of settlement or rotting to nearby wooden foundations.[2]

Recommendations regarding site grading, placement of fill and drains, designs for pavement, wall strength and water-proofing and construction inspection as specified by Harding-Lawson[2] would be followed to maintain efficient and safe construction within San Francisco Building Code Standards.

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[1] John A. Blume and Associates, San Francisco Seismic Safety Investigation, San Francisco, California, June 1974, p. 14 and Figure 3.

[2] J. P. Bowers, Civil Engineer - 28962, Harding-Lawson Associates, letter to EIP Corporation, 29 October 1981.

M. GROWTH INDUCEMENT

The new office space in the project would be available for relocation or expansion of San Francisco firms, for firms relocating from outside of San Francisco, or for newly forming firms. The project would represent an additional growth of about 1% in highrise office space in downtown San Francisco.[1]

Approximately 3,000 employees (including office, managerial, retail sales, maintenance and security positions) could ultimately be located in the new building. To the extent that the project attracts new residents or commuters who otherwise would not have been attracted to San Francisco or the Bay Area, the project maybe viewed as employment-generating and growth-inducing. A variety of direct or indirect growth effects could result from full implementation of the project, such as an increased demand for housing, medical, social, commercial and municipal services, and a secondary impact on the streets, freeways, and transit systems.

The proposed project would have an incremental impact on the demand for housing in the area. Assuming that 40% of the future employees would live in San Francisco[2] and approximately 1.8 persons per household would be employed downtown (Section IV.D., page 64), the proposed project could generate a demand for 635 units if all the 40% employees were new San Francisco residents.

No new infrastructure improvements would be required except possibly enlarging the water main (see Section IV.I., page 101). It is not likely that the project would intensify development opportunities that do not already exist. The project would continue the trend of intensifying office use in the downtown, south of Market Street. Together with other new office development near the site, it could stimulate further office growth in the immediate vicinity on lots currently used for parking or occupied by low-rise structures containing business support services. Employee purchasing power could stimulate employee-oriented retail activity in the proposed project area.

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[1] Based on 43,168,000 gross square feet of current office space in buildings 10-stories or higher. Final Environmental Impact Report, 101 Montgomery, EE.80.26 May 1981, page 186.

[2] This number has also been estimated at 25-35%. Recht Hausrath "Commercial Space; Employment, Housing and Fiscal Factors", for EIP, August 1981. The 40% is an estimate used by the Department of City Planning based on surveys and EIRs on current employment data in office buildings in San Francisco.

Four blocks to the east of the proposed project is the Rincon Point Redevelopment Project, and two blocks to the south is the South Beach Redevelopment Project. In the 1981 development plan for both areas, residential, commercial and park land uses are proposed. In addition, hotel (400-800 room complex) use is designated for the Rincon Point Area, and a small boat harbor is planned for the South Beach Area.[1] No office land uses are desginated in the plan. The Department of the City Planning is completing a Study of the South of Market Area and is formulating policies for "Industrial Protection Districts."

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[1] San Francisco Redevelopment Agency, "Redevelopment Plan for the Rincon Point -South Beach Project Area". Adopted and Approved by the Board of Supervisors of the City and County of San Francisco, Ordinance No. 14-81, January 5, 1981.

N. COMMUNITY CONCERNS

Several community organizations and individuals responded to the Initial Study on the proposed project (see Section I.B.I., page 112). Letters from the following are on file with the Department of City Planning, Office of Environmental Review:

San Francisco Tomorrow
San Franciscans for Reasonable Growth
Sue C. Hestor

The concerns expressed in these letters were related to the location of the proposed project near Rincon Hill; the project's relationship to the SPUR "South of Market Study" report; Bridgemont High School site at Third and Harrison Streets; housing alternative; commercial office activity in M-1 district; potential tenancy by existing San Francisco firms; need for a Conditional Use Permit; population density; growth-inducing effects, housing demand; transportation systems; parking demand; alternative uses and project design; employment; energy demand; and utilities and public services.

These responses helped to identify the potential environmental issues resulting from the proposed project. Table 20, page 112, shows where in the EIR these concerns have been addressed.

TABLE 20

Community Concerns

	I. SUMMARY	II. PROJECT DESCRIPTION	III. ENVIRON-MENTAL SETTING	IV. ENVIRON-MENTAL IMPTS	V. MITIGATION	VI. UNAVOIDABLE ADVERSE IMPACTS	VII. ALTERNATIVES
Location of Proposed Project near Rincon Hill			p. 50	p. 60			
Project's Relationship to Spur South of Market Report				p. 57			
Bridgemont High School Site at Third and Harrison				p. 98			
Housing Alternatives							p. 126-141
Commercial Office Activity in M-1 District	p. 2		p. 28	p. 54			p. 126
Potential Tenancy by Existing San Francisco Firms		p. 10		p. 57			
Need for Conditional Use Permit		p. 27		p. 64			
Population Density				p. 64			
Growth-Inducing Effects	p. 5			p. 110			
Housing Demand	pp. 3, 6		p. 37-39	p. 65	p. 114		p. 126
Transportation Systems	pp. 3,6		pp. 39,41	pp. 65-77	p. 113	p. 121	
Parking Demand			p. 41	pp. 55,77	p. 115	p. 121	
Alternative Uses and Project Design	p. 7						pp. 141-147
Employment	p. 3		p. 37	pp. 57,64			
Energy Demand	pp. 5,7			p. 102	p. 118	p. 121	
Utilities and Public Services	p. 5			p. 101	p. 118		

V. MITIGATION

A. VISUAL QUALITY AND URBAN DESIGN

Because the proposed project would be bulkier than the existing low-rise structures in the area, the project sponsor has studied an alternative project design that attempts to reduce the visual impact of the project. This design is discussed in the Alternatives section of this report (see Section VII.D., page 141 and Appendix F, page A-59). The project sponsor wishes to have this possible mitigation measure considered as an option.

B. HOUSING

The City could require that the project sponsor provide 635 housing units to mitigate the impact that the proposed project may have on housing. Several alternative ways to provide this mitigation are discussed in the Alternatives Section (see Section VII.C., page 126). The project sponsor has not agreed to any housing construction mitigation for economic reasons.

● Development of market rate housing currently encounters two obstacles. First, construction costs are increased because of high interest rates for construction loans. Second, high interest rates impede the provision of mortgage loans for buyers and decrease sales, as evidenced by the current high inventory of unsold housing units. Case studies of recent residential projects indicate that the average unit size is about 800 square feet, and the development cost for a unit is $189 per square foot for highrises and $131 per square foot for midrises. If an average unit is sold at a 15% mortgage interest according to HUD's median income figures for San Francisco, the affordable purchase price for a moderate income household of three persons is $54,100. The affordable purchase price for a low income household of three would be $36,100. As the unit costs $151,200 (highrise) to $104,800 (midrise) to build, selling it at affordable prices under an inclusionary program suggests that it would be sold for $50,700 to $115,100 below cost, depending on the type of project and the income of the household. If the income figures remain relatively stable, and the interest rate rises above 15%, the affordable price would be even lower, and the gap between development cost and affordable price would be large.[1]

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[1] Department of City Planning, memorandum from Dean L. Macris, regarding Inclusionary Zoning, 8 October 1981.

It also is not feasible to follow a strategy of inclusionary zoning to promote the develoment of affordable housing. "Reputable developers indicate that, as a general rule, the average rate of return from a project is expected to be about 30% to 35%. Without using public incentives or subsidies, the rate of return would be significantly lowered to the point where there would be insufficient incentive for a developer to undertake a project."[1] Even if density bonuses were offered as an incentive, it would require two-to-

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[1]Department of City Planning, memorandum from Dean L. Macris, regarding Inclusionary Zoning, 8 October 1981.

four additional market rate units for each moderate-income unit in order for a project to maintain the same rate of return as that for a project without moderate-income units. Given the infeasibility of market rate housing itself, density bonuses offer no assistance in improving the economic feasibility of affordable housing.

- Pursuant to its efforts to mitigate the housing impacts of the project, the project sponsor has negotiated with the San francisco Redvelopment Agency to fund a portion of the financial gap in a Section 8 Housing Project in the Hunters Point area known as the Cypress Grove Cooperative. The project sponsor contemplates funding up to $3.5 million dollars and is awaiting funding approval from HUD.

C. TRANSPORTATION

The project sponsor would implement a transportation program[1] outlined below:

1. Administrative Actions
   - Designate a permanent Transportation Coordinator as part of building management staff
   - Request major tenants to designate internal Transportation Coordinators
   - Set up a Transportation Coordinator Task Force (a working committee of the Transportation Coordinators)
   - Encourage the investigation and implementation of flex-time programs by providing information on the program's advantages, feasibility, etc.
   - Set up a periodic report, monitoring and evaluation system by the Transportation Coordinator to be shared with major tenant's internal transportation coordinators

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[1]For details refer to Marathon Second and Folsom Building Transportation Program, Jon Twichell and Associates, July 1981.

2. Parking Management

- Project sponsor to retain control of all spaces
- Transportation Coordinator to develop parking priority system
  - o First priority to handicapped
  - o Second priority to registered ride-sharing vehicles
  - o Third priority to short-term commercial parking
  - o Prohibition of long-term, single-occupant auto parking (through permit/ policing program)
- Set up a registration and enforcement system for ride-sharing vehicles
- Develop at least 25 secure, supervised bicycle and motorcycle spaces

3. Transit

- Sell Muni Fast Passes and other monthly commute passes on-site
- Accumulate and make transit routes, schedules and information available to employees
- Make public transit information numbers available to tenants
- Join with other South-of-Market developers to encourage improved transit service to the site

4. Ride-Sharing

- Coordinate with RIDES and Golden Gate ride-sharing office
- Develop and maintain car pool and van pool matching services
- Coordinate preferential parking for van pools in CalTrans parking lots (see Figure 20, page 35)

5. Marketing the Alternative Transportation Program

- Develop and distribute Transportation Guide
- Set up and maintain new-employee orientation sessions to promote program
- Set up a transportation bulletin board
- Develop targeted marketing campaigns
- Regularly repeat all marketing activities
- Develop and implement regular marketing campaigns

The goal of the transportation program would be to reduce single-occupant auto commuting to less than 10% over a 3-year period. If the transportation program goal is reached, the project's parking demand would be reduced by approximately 150-200 spaces. This would leave an excess parking demand of 230 to 690 spaces.[1]

Within 3 years from completion of the project, the project sponsor would conduct a survey in accordance with methodology approved by the Department of City Planning to assess actual trip generation patterns of project occupants, and actual pick-up and drop-off areas for car poolers and van poolers. This survey would be made available to the Department of City Planning.

If the project sponsor fails to meet the transportation goal, the project sponsor would participate in any future areawide study of current parking conditions and future needs. If new short-term (or long-term) parking is appropriate in the downtown area, the project sponsor would participate in the equitable funding of such facilities through a special assessment district according to criteria determined by the study.

Another mitigation measure that may be required by the City could involve the project sponsor providing the appropriate number of deficit parking spaces. The project sponsor rejects this mitigation measure because it would not be financially feasible. Development of a financially-feasible office project within the present height limit constraints permits utilizing only a small portion of the allowable building envelope for parking facilities. If a greater amount of parking were to be provided, it would need to be accommodated in underground structures. Because of the rock formations underlying the site, extensive below-grade excavation and construction would be difficult. Potential revenues from parking operations would not justify the cost of constructing extensive underground parking facilities.

Another measure would be to build parking facilities at another location to provide all the code-required parking for this project. If the project were found to not require this amount of parking, the facility could be leased or sold to other projects in the area. This measure also would not be economically feasible. The project sponsor does not own any

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[1]

786-1,196	spaces (demand: Section IV.E.4, page 77)
(358)	spaces (provided: Section II.C, page 37)
428-838	spaces
(200-150)	spaces (equivalent mitigation: Section V.C., page 114)
228-688	spaces (deficit)

other developable parcels in the immediate area of the proposed project. Revenues from the proposed project would be insufficient to justify the purchase of additional nearby property, providing it was available, and the cost of developing parking facilities on such a parcel.

- The project sponsor would cooperate with other South of Market developers in studying cumulative transit impacts and in developing solutions for South of Market transit impacts resulting from cumulative development in the area. The project sponsor would participate in the solution(s) developed from the study.

- The project sponsor would contribute to a fund for maintaining and augmenting transportation service, in an amount proportionate to the demand created by the project, through an equitable funding mechanism, such as an assessment district implemented by the City, which would meet the peak demand generated by cumulative development in the downtown area.

The project sponsor would work with the Utilities Engineering Bureau to determine the feasibility of providing eye bolts on the building exterior to support electric Muni coach wires. If proven feasible, the eye bolts would be installed. The project sponsor would provide transit shelter facilities adjacent to the project site, subject to approval by the City as to location and need.

With respect to construction impacts, the project sponsor would ensure that safe and convenient pedestrian access would be maintained throughout the construction period on designated walkways around the project site. The delivery of equipment, materials, etc. would be prohibited during peak traffic flow periods (7:30-8:30 a.m. and 4:30-5:30 p.m.).

D. AIR QUALITY

The project's location in the San Francisco downtown area can be viewed as an asset in terms of regional air quality. The combination of transit access from the San Francisco Municipal Railway, BART, AC Transit, SamTrans and Golden Gate Transit buses results in an estimated 65% non-auto transportation split. The other 35% of the trips made by automobile would add to traffic volumes in the area.

The measures discussed under Transportation Mitigation, page 114, would also mitigate air quality impacts. These measures would include car pooling, van pooling, and staggered work hours.

E. NOISE

If special noise problems arise at nearby sites, mitigation measures that would be considered include scheduling noisy activity during minimum use time and shielding windows with gypsum board.

F. COMMUNITY SERVICES AND PUBLIC UTILITIES

The project sponsor would contact the San Francisco Water Department and arrange for a more precise test of the water mains to ascertain whether their capacity is sufficient to serve required fire flow for the project or whether it will be necessary for the project sponsor to have the Water Department increase the size of the main which will serve this project. Improvements made to this low-pressure main, if found necessary, would be the responsibility of the project sponsor on an equitable basis (i.e., a pro-rated share of the costs based upon the amount of benefit directly applied to the project).

The domestic water system would include water conservation devices such as flow control devices for lavatories, drinking fountains and showers to minimize overall usage of domestic water.

A recycling program (paper, glass, aluminum cans, etc.) would be investigated by surveying literature on the subject and by contacting downtown office buildings to ascertain the success level of such programs that have been implemented. If feasible, such programs would be implemented.

- An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to insure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by building management before issuance by the Department of Public Works of final building permits.

G. ENERGY

As further assurance of compliance with the standards of Title 24, beyond what is required by the law, the project sponsor would monitor the structure's energy use for space and water heating, ventilation, air conditioning and lighting for a period of one year. If the structure's energy use exceeds the 126,000 BTU per gross square foot per year limitation stipulated by Title 24, an energy audit would be performed, delineating mitigation measures to bring the energy consumption into conformance with the law. Some of the types of measures that would be considered include the use of active solar energy, wind energy, double and triple pane glass, operable windows, use of HVAC

economizer cycle, individual room light switches and thermostats, use of recessed fluorescent lighting fixtures with heat extraction capability to minimize the amount of heat transmitted to the office space, and use of activity detection switches to automatically turn off lights in empty rooms. All of these measures would also be considered in the design process.

The project sponsor would negotiate with PG&E a peak load management program. The project sponsor would install separate utility metering per floor (see Section II.C., page 14).

H. HISTORICAL AND CULTURAL RESOURCES

A preconstruction testing program is one available mitigation measure. This testing program would be undertaken under the supervision of a qualified archaeologist who would prepare a report within 30 days of completion of testing, to be presented to the Office of Environmental Review, Department of City Planning and to the project sponsor. The report would include recommendations for further proceedings based on a determination of significance of potential finds and include recommendations for mitigation measures to reduce impacts if any items of significance were determined to be likely.

The project sponsor has rejected this mitigation measure since the records search conducted for this EIR revealed no archaeologically or historically significant activities.

- If historical or archaeological resources are discovered during construction of the proposed project, the contractor would stop work in the area of the find and select a professional archaeologist to permit professional evaluation of the find and determine the appropriate subsequent steps to be taken. The Office of Environmental Review, the President of the Landmarks Preservation Advisory Board, the Director of the Maritime Museum in San Francisco, and the Regional Archaeological Site Survey Office at Cabrillo College at Aptos, California would be notified. Any artifacts found would become the property of the project sponsor. All recommendations would be sent to the State Office of Historic Preservation. Construction that may be damaging to historical resources discovered would be suspended for a maximum of 1 week to permit inspection, recommendations and retrieval, if judged appropriate.

A possible modification to this mitigation measure would provide for a 4-week suspension of work to permit inspection, recommendation and retrieval. The project sponsor has rejected this longer period because of the additional costs involved with this length of interruption of construction.

I. GEOLOGY, SEISMICITY AND HYDROLOGY

The bedrock beneath the proposed project site consists of Franciscan Formation shale and sandstone which are considered to have good stability under earthquake conditions.[1] Since

[1] URS/John A. Blume and Associates, San Francisco Seismic Safety Investigation, San Francisco, California, June 1974, page 6.

the proposed buildings foundations would rest on bedrock, spread footings have been recommended by Harding-Lawson.[1] The appropriate-sized spread footings would bear directly on undisturbed bedrock. Excavations would be kept free of loose debris and pumped dry to allow satisfactory cleaning and inspection. The effects of excavation on the elevated freeway approach ramp east of the site would be evaluated and appropriate shoring would be emplaced.

The City storm-sewer system would be protected from siltation during the construction period by sediment control measures such as sweeping adjacent paved areas to remove sand, watering the site to settle dust, and placing straw bales around side-drain inlets to prevent mud or debris from entering the inlets. Because groundwater seepage was observed in many bore holes, permanent drains would be provided behind all basement walls.

During excavation, shoring and bracing would be used to reduce soil movements beneath adjacent structures and streets. Interlocked sheet piling would form a relatively impermeable shoring system which would allow groundwater off the site to be maintained at its present level. The excavation would be kept dry by sump pumping as required rather than through the use of dewatering wells. This would prevent consolidation of soils supporting adjacent structures and would avoid exposing nearby wooden foundations to dry rot.[2]

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[1]Bowers, J.P. and H.T. Taylors <u>Geotechnical Investigation, Second and Folsom Project, San Francisco, California</u>, Harding-Lawson Associates, San Francisco, California, 3 September 1980.

[2]E. Rauber, Engineer, Harding-Lawson Associates, telephone conversation, 27 October 1981.

VI. UNAVOIDABLE ADVERSE IMPACTS

A. TRANSPORTATION

- The proposed project would cause a degradation of one Traffic Level of Service (from B to C) at the intersection of Second and Folsom Streets. The Level of Service at the intersection of Second and Harrison Streets would be degraded from B/C to E, either with or without the project.

Increased traffic in the industrial area south of the project site due to cumulative development would increase conflicts with truck delivery and loading functions.

B. SHADOWS

Shadows from the project would affect the south side of Folsom Street, the freeway ramps east of the site, and the PT&T Plaza.

C. FISCAL

Cost increases would be expected for Muni, SamTrans, BART, and Golden Gate Transit. Cumulative costs for police and fire protection could increase due to downtown growth.

D. ENERGY

Assuming a building lifetime of 50 years, the estimated lifetime energy costs would be about 4 trillion BTU. This would be the equivalent of 740,000 barrels of oil.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

A. "NO PROJECT" ALTERNATIVE

If the proposed project were not constructed, the site would remain a surface parking lot for an unspecified time. The existing 2 to 3 story structure would remain. If the site were retained in its current use, none of the impacts associated with the proposed project would occur.

The project sponsor has stated that its desire to locate the proposed project in San Francisco was based on an analysis showing the need for a large-floor (over 20,000 square feet) office building in proximity to the Financial District. At the same time, such a project should also allow "reasonable" rental rates (see Section II.D., page 27). The location of the proposed project meets the sponsor's criteria.

Although the sponsor has not indicated a desire to locate the project in another Bay Area Community (e.g. Oakland, Concord/Walnut Creek), some Bay Area firms are relocating to other areas in response to San Francisco's low vacancies, higher rents, congestion, and tight housing market.[1]

To locate a project similar to the one proposed in another community would have an impact on that community. The extent of impacts on land use, transportation, air quality, noise, community services, population and employment, would depend on the local setting. Visual impacts would be a function of building design which would probably change due to different site constraints and legal limitations. Tax rates differ from area to area, as do the tax needs. Energy impacts would differ because heating and cooling needs vary in the Bay Area. Commute distances would vary and in turn would affect energy impacts and air quality.

If developed in another location, the proposed project would have different transportation impacts. If the project were developed in an East Bay location, employee commute

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[1]ABAG, Bay Area Office Growth, Working Papers on the Region's Economy, Number 1. April 1981.

distances would be affected. The net increase (or decrease) in vehicle miles traveled (VMT) would depend upon a more specific analysis of probable employee residence locations and range of transportation alternatives.

Site-specific impacts of project relocation could also vary. For example, a development in downtown Oakland would generate parking and transit impacts comparable in magnitude to those anticipated in San Francisco but different in location. A more suburban location where transit is less available might result in an increase in traffic and air quality impacts.

Since the transportation impact Guidelines assumes most downtown San Francisco non-resident workers live in the East Bay, an East Bay location could reduce total commute miles traveled especially if fewer San Francisco residents chose jobs in the East Bay compared to East Bay residents choosing San Francisco jobs. Commuters from San Francisco to the East Bay would employ under-utilized transportation facilities for the greater portion of their trips.

A project in another part of the Bay Area would be subject to the environmental review requirements of CEQA administered by the local jurisdiction.

The project sponsor rejects this alternative because of its desire to develop the project in San Francisco.

B. PHASED PROJECT/OFFICE CONDOMINIUM OPTIONS

This alternative considers phased construction of the proposed project and partial office condominium development.

The first phase would involve Building A and would include about half of the office space, most of the commercial/retail space, and all of the parking. Construction in each phase would take approximately 2 years. Based on project approval in early 1982, the first phase of the project would be planned for occupancy in early 1984; the second phase in early 1986.

The impacts and benefits of this alternative would be similar to those of the project as proposed, except that the length of time for the impacts and benefits to be realized would be extended.

With this alternative, the project's full effects on traffic and pedestrian flows, and transit usage and parking demand would be delayed. Within 2 years, about one-half of the project would be complete and addition of traffic, transit patronage, etc. would take place on a proportional basis. After 2 more years, the second half of the project would be occupied and the impacts cited in the EIR would be realized. The employees of Building A may get used to the availability of parking and may be resistant to change when completion of Building B requires implementation of transportation mitigation measures.

The phased approach of this alternative would extend the construction traffic impacts over a longer period. Thus, disruptions due to materials and equipment delivery, and sidewalk closures would occur over a longer period of time. Each phase would, however, represent a reduced scale of effort and the level of construction traffic and impacts would tend to be reduced accordingly.

The alternative of constructing half the project (1 building and the pedestrian plaza) would reduce the magnitude of visual impacts until such time as the project would be completed. For example, there would be reduced building mass on the project site and less contrast between the scale and bulk of the project and surrounding lower buildings. Views outward to the skyline of the Financial District and other areas of the City to the west would not be as obstructed to the pedestrian. There would be less building mass rising above the elevated freeway ramps and the project would not restrict views or be as apparent to motorists on the ramps for the period prior to project completion.

Other construction-related impacts such as air quality, noise, and energy would be extended over a longer time span.

While it is the project sponsor's intent to develop the entire project, each phase would be designed and marketed to allow that phase to stand on its own financially.

Estimated revenues that could accrue to the City from the various taxes (see Table 19, page 99) would be approximately half for the first 2 years of the project. Once the phasing were completed, there would be no change in revenues from those of the proposed project.

The housing demand would take longer to materialize since half of the office space would be built during the second phase. Delaying a portion of the project until 1986 could affect the level of predicted revenues (in constant dollars) as the longer time frame for project completion would be more susceptible to the variable rate of inflation.

Cumulatively, the effect of the project on the cost for municipal services would be less for this alternative than the proposed project until the alternative is fully implemented; however, the volume of office space currently approved and/or under construction would still have an impact on public transit.

The project sponsor is considering the option of submitting a subdivision application to allow an office condominium development. Such an option would allow single floors or portions thereof to be sold as units, and would not change the use of the building from that of the proposed project. The project sponsor would utility meter each floor to promote energy conservation and to allow proper monitoring of energy use by the tenants.

This type of development would have no different effect on the environment than that of the proposal. However, it could provide increased revenue to the City compared to the project as proposed. Each condominium would be solely owned, i.e. the property tax would be based on the individual office and not the building at large. Thus, it would be probable that the condominiums would be sold more frequently than the building (if it were not condominiums) and could be reassessed after each sale. This means that the property tax resulting from the condominium project would be theoretically more than a single office building, as the sum of the value of the individual condominiums would probably be greater than the total building as rentable offices owned by a single entity. In addition to the increase in property taxes expected from the condominiums over time, each sale of a condominium would be submect to a transfer tax of $5/$1,000 sales price. This would represent considerable additional revenue as it would not be very probable that the office building would be sold very often as a single property. Other revenues accrued by the City would be about the same for office vs. office-condominiums.

The project sponsor is investigating these alternatives and wishes to have them considered as a possible option.

C. HOUSING ALTERNATIVE

1. Proposed Project Plus Housing

The proposed project would create a potential City housing demand of approximately 635 units (see Section IV.D., page 65). Any housing alternative would require conditional use authorization. Under M-1 zoning, 227 housing units would be allowed on the project site because the nearest residential district is RC-2, located at Third and Bryant Streets (see Figure 16, page 29) where 600 square feet of lot area per unit are required.[1]

This alternative assumes that the project would involve the same office, retail, and related parking as the proposed project. In addition, the 227 units of housing would be provided with 227 accompanying parking spaces.[2]

The addition of residential units only to Building B (see Figure 35, page 127) would represent a practical solution to combining office and housing uses. Since housing would have different requirements than office space, it would be more functional to mass housing together with its related requirements (24-hour access to lobby and elevators, recreational facilities and amenities, security for building residents, etc.). Building B would provide flexibility for residential design by orienting views toward the downtown skyline.

The total additional area for housing would be approximately 163,000[3] square feet. If added to the proposed project as currently designed, approximately 70 feet in height would be added to Building B (see Figure 35). This alternative would require a rezoning, given the proposed building "footprint", because the height of Building B would exceed height limits by 70 feet. This alternative would also not meet the bulk limits. The housing would be added to the project as proposed which itself does not meet the bulk limits.

In addition to project modification at the proposed site, 408 housing units would have to be located elsewhere in the City, unless the City decides to give more than 1 for 1 credit

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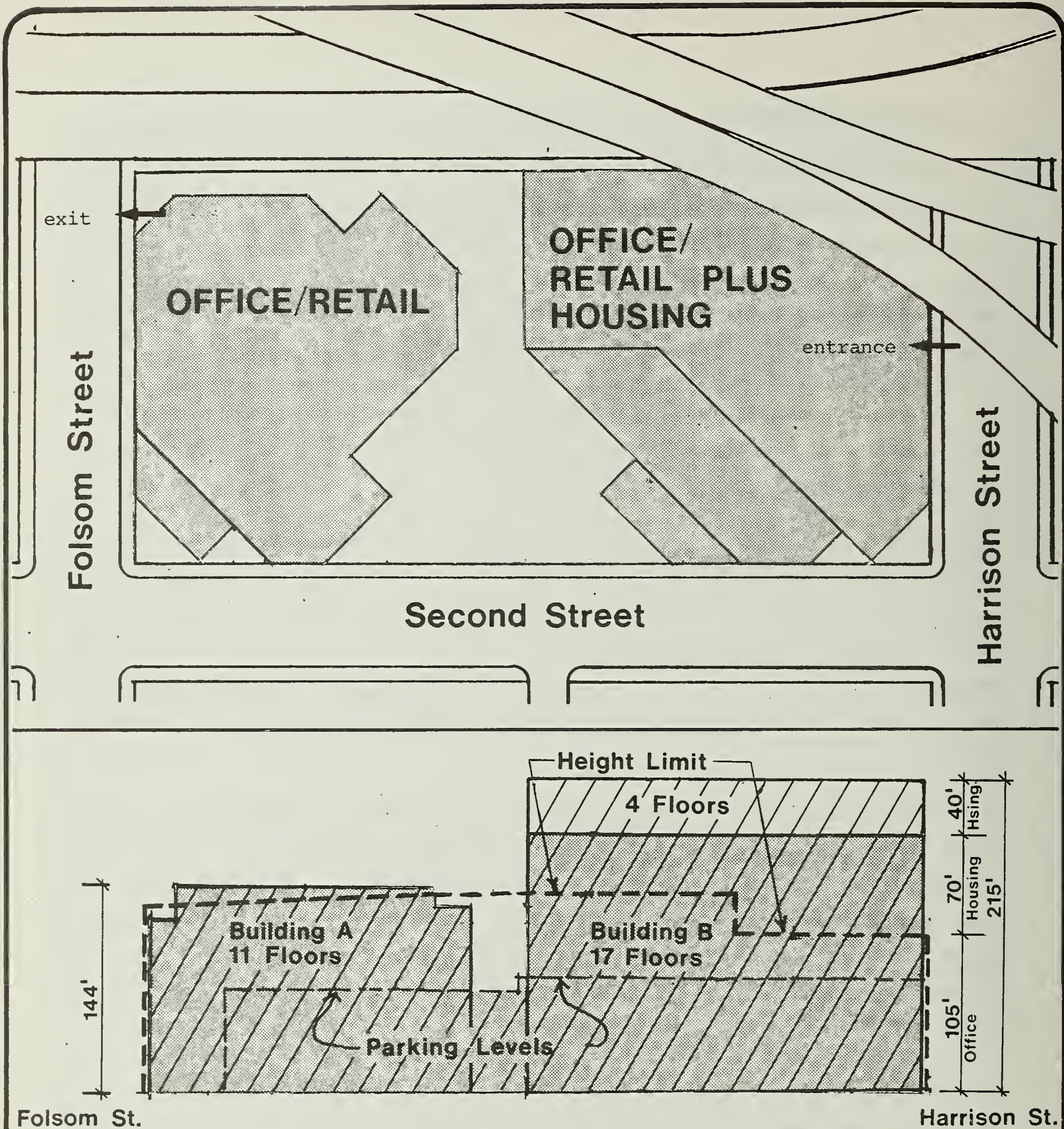
[1] San Francisco Planning Code, Sections 215(a) and 209.1(j)

[2] One space/unit per Planning Code Section 151.

[3] 227 units x 1.8 adults/(unit) x 400 sq. ft. residential/(adult) = 163,440 sq. ft.

From Department of City Planning Memorandum, "Housing Requirement for Office Development in San Francisco", 20 July 1981.



SECOND STREET SECTION
(at highest point)

Project Plus Housing Alternative

	Alternative With 227 Units	Alternative With 340 Units
OFFICE:	722,000 sq. ft.	722,000 sq. ft.
COMMERCIAL:	32,000 sq. ft.	32,000 sq. ft.
PARKING:	527 spaces	640 spaces
FAR:	6.36 to 1	6.92 to 1

Source: Bolles Associates

North

Scale 0 50 100 200 Feet

Figure No. 35

for housing on-site, as has been recommended by some developers. Policy on credit for on-site housing is currently under study by the Department of City Planning which has recommended that no change be incorporated to allow bonus credits at this time.[1] The location of this off-site housing or even if it would be all in 1 location, has not been determined. The housing mix, either on- or off-site, and the inclusion of low and moderate income housing, and the method of financing for any of the housing alternatives, have not been determined, because the project sponsor has decided not to include housing as part of the proposed project due to marketing and economic considerations. Any off-site housing is potentially subject to the City's 10% low and moderate income housing requirement.[2]

Within walking distance (2,000 feet) there are approximately 20 restaurants and 40 deli, sandwich shops, and bars and grills. The majority of these establishments are located in the area between the proposed project site and Market Street, and they are oriented towards daytime customers from offices and businesses in the area. Four convenience food stores are located in the vicinity of Third and Bryant Streets. An entertainment establishment is located in the Transbay Terminal at First and Mission Streets. The project site is 1 block from the George Moscone Center. Residentially oriented retail uses, such as a grocery store are being proposed for 2 blocks of the Yerba Buena Center Redevelopment Area between Third and Fourth Streets, between Mission and Howard Streets and between Third and Fourth Streets between Folsom and Harrison Streets, 2 blocks west and 2 blocks northwest of the proposed project. These proposals are currently undergoing Environmental Review (Supplement 2 to the YBC EIR), and will be acted upon late in 1981 or early in 1982. Implementation of either or both of these proposals would provide retail uses contributing to meeting the needs of any residential units on the proposed site.

If the project were augmented by 227 on-site housing units, the impacts on transit and traffic conditions generated by residents of the on-site housing would be minimized by the fact that the project location would offer convenient pedestrian access to downtown.

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[1] A memorandum from the Director of Planning, 8 October 1981.

[2] Section 1341, Chapter XIII, Part II, San Francisco Municipal Code (Subdivision Code). As now worded, this requirement applies only when subsidy is available. This policy is subject to future modification.

The addition of 408 other housing units within the City would add riders to Muni lines, many of which are already congested. The distribution of these riders by line would depend on the location of the housing site.

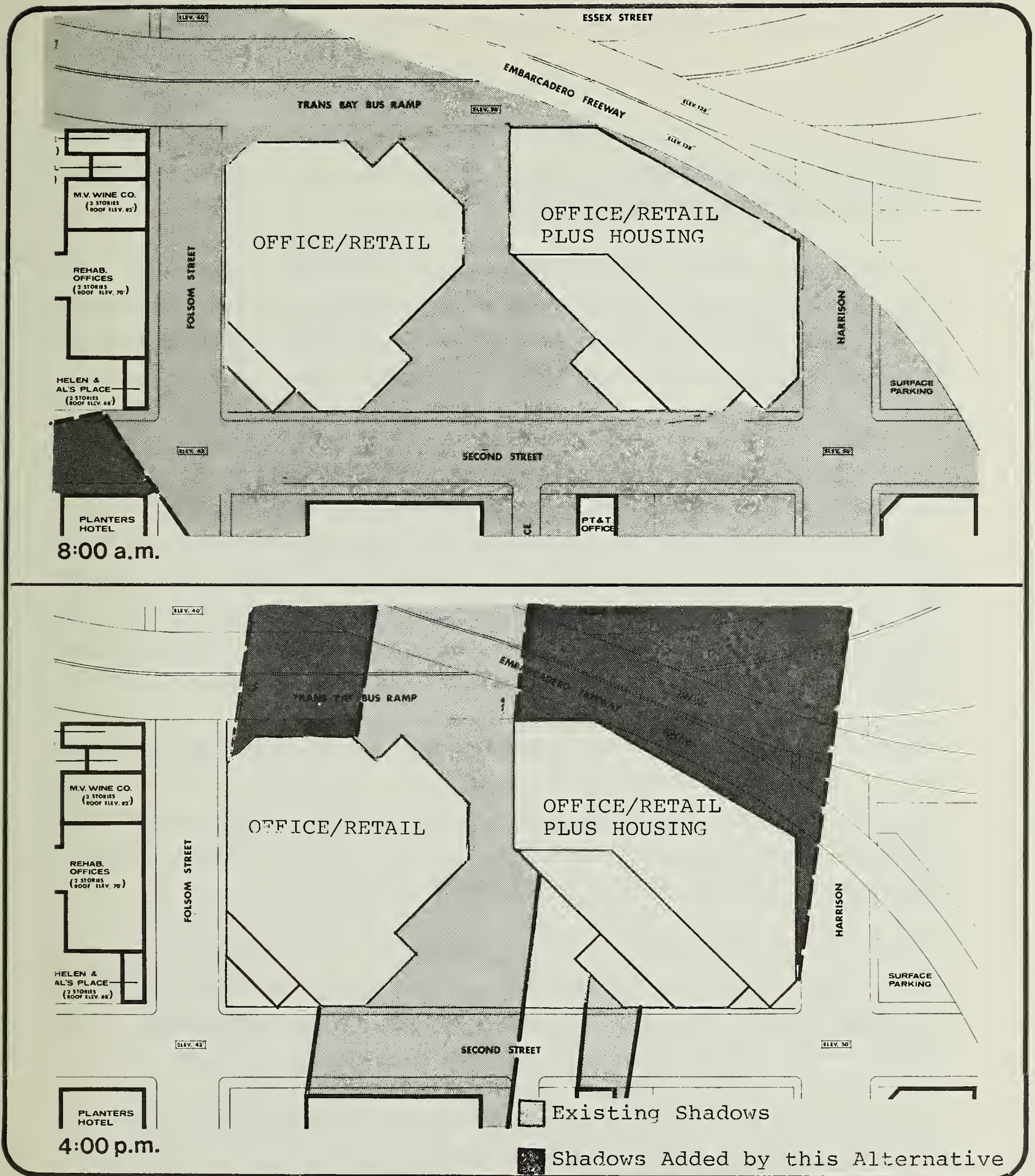
Noise would be a site-specific impact on housing units placed on top of the proposed project. Housing constructed on the top of Building B would be exposed to a noise level of 83 dBA, Ldn, on the freeway-facing portion of the building while the noise exposure at the other facades would be an Ldn of 72 dBA. The freeway-facing portion of units atop Building B would require 38 dBA noise reduction to achieve the State Administrative Code requirement of an interior noise level of 45 dBA, Ldn. All other facades of living units atop Building B would require 27 dBA noise reduction to achieve the state standard. Each of these situations would require acoustical glazing (or double glazing) and mechanical or other noise muffling ventilation systems. Double glazing would minimize heating and cooling energy requirements; mechanical ventilation would increase energy requirements.

U.S. Department of Housing and Urban Development standards (if HUD funding were requested) would require enclosed courts to provide an outdoor activity area exposed to no more than 65 dBA, Ldn. This would require total enclosure of a central courtyard or some similar facility with consideration given to noise reflections from buildings and to noise penetration through doorways. Application of acoustical considerations in the design of these housing units would also be consistent with the San Francisco Noise Ordinance.

The annual energy use of this alternative would be increased by approximately 58 billion BTU for residential use (22 billion BTU on-site; 36 billion BTU off-site).

A shadow analysis was conducted for this alternative (see Figure 36, page 130). The times (8:00 a.m. and 4:00 p.m.) and the date (December 21) were selected to be most representative of the worst case situation with respect to shadows. Comparing this alternative with the proposed project (see Figure 30, page 87) shows little change in the shadow effects.

Additional revenues generated for the City would include payroll tax for personnel providing services to the residential units, property tax, and utility users tax. Demands on municipal services would increase, particularly for recreational facilities and police



Project Plus Housing Alternative

December 21-Shadow Pattern

North

0 40 80 160
Scale Feet

Figure No. 36

protection. Indirect revenues would come from resident expenditures for goods and services (sales tax). Revenues may increase around 15% to 30% over proposed project revenues (excludes building housing off-site).

A Planned Unit Development could permit a density of up to 340 units on the site.[1] The total additional floor area required for this amount of housing would be approximately 245,000[2] square feet. Approximately 110 feet would be added to the height of Building B (see Figure 35, page 127). Spaces for 1,177 cars would be provided.

Similar impacts as those associated with the addition of 227 units to the project would be realized with the addition of 340 units. This alternative would exceed the height limits by 110 feet and would require rezoning. The bulk limits would also not be met. The annual energy use for this alternative would be greater on-site than for an alternative with 227 units. There would be little difference between an alternative with 340 units and one with 227 units in the issues of noise and shadows. Because of the additional housing on-site, revenues may increase around 20% to 40% over proposed project revenues (excludes building housing off site). Only 296 units would have to be located elsewhere in the City.

The project sponsor rejects this alternative because of economic and financial considerations. Even though all housing units would be massed in Building B, construction costs would be increased because separate elevator, parking, security, and utility systems would be required. Enlarging the project by adding housing to it would increase project costs without increasing project revenues by a corresponding amount.

The nearest grocery, drugstore, and similar retail services would be several blocks away at YBC (see page 128); medical and dental services, laundries and cleaners, recreation and entertainment, and similar types of personal services would not be available in the immediate area. To market housing units successfully, the project sponsor believes that it would need to provide space within the project for such activities and services. Also, the project sponsor has not managed the development and operation of housing units, and would incur costs to obtain such management expertise.

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[1] San Francisco Planning Code, Section 304(d)4 and 209.1(k).

[2] 340 units x 1.8 adults/(unit) x 400 sq. ft. residential/(adult) = 244,800 sq. ft.

2. Reduced Office Project Plus Housing

Under current Code requirements, 227 housing units would be allowed on the proposed project site. The size of this alternative project was selected based on an office area that would result in a housing demand of 227 units.

This alternative would be a project with 258,000 square feet (36%) of gross office space (compared to 722,000 square feet as proposed), 32,000 square feet of gross ground floor commercial space (same as proposed), 227 units of housing, and 808 parking spaces. The total gross area, including parking, would be 736,000 square feet (86%) (compared to 859,000 square feet as proposed).

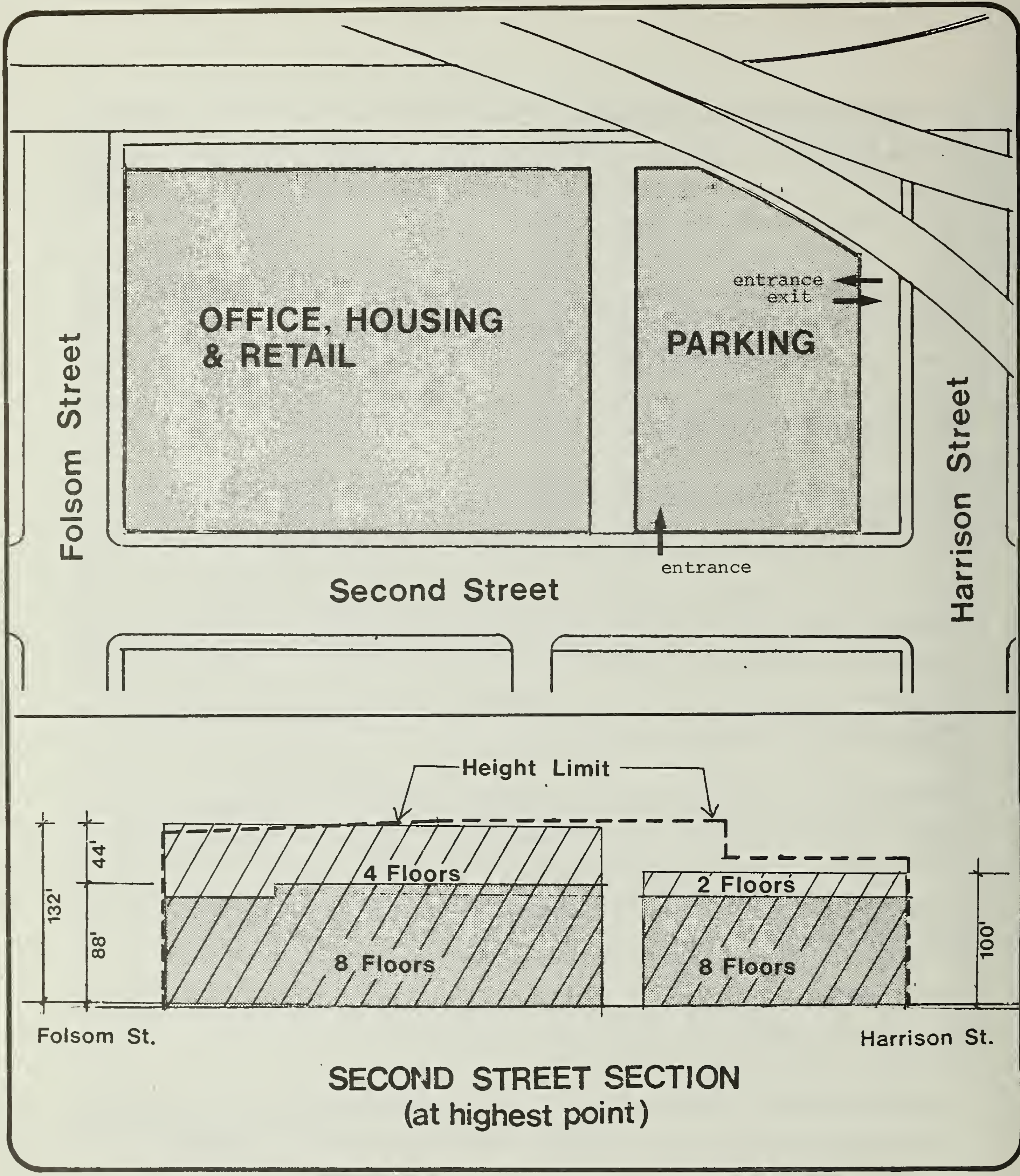
The project could be built within the limits of the height and bulk district (see Figure 37, page 133). This alternative design includes a parking structure as one unit to address the special requirements such as column spacing, floor heights, building and fire code regulations, and ventilation requirements, all of which would be different from design criteria for offices or office and housing in a mixed use. Separation of on-site traffic and parking from other activities would be a preferred solution. The purpose of the change in building height would be to reduce the building height and bulk at Second and Folsom Streets where the upper floor would be over 80 feet.

If 227 housing units were developed with a reduced office project, transportation impacts would be reduced from those of the proposed project. Total person trip generation would be 20 to 30% lower than estimated for the proposed project, and more of these person trips would be pedestrian; the net effect on parking, transit and traffic conditions would be similarly reduced.

Noise impacts and considerations would be similar to those of the previous alternative, except that the noise from the freeway would be less.

Under this alternative energy use would drop to about 52 billion BTU annually, compared to the proposed project, as a direct result of the reduction in the size of the project.

The shadow analysis (Figure 38, page 134) shows that the shadow effect would be very similar to that of the proposed project.



Reduced Office Plus Housing Alternative

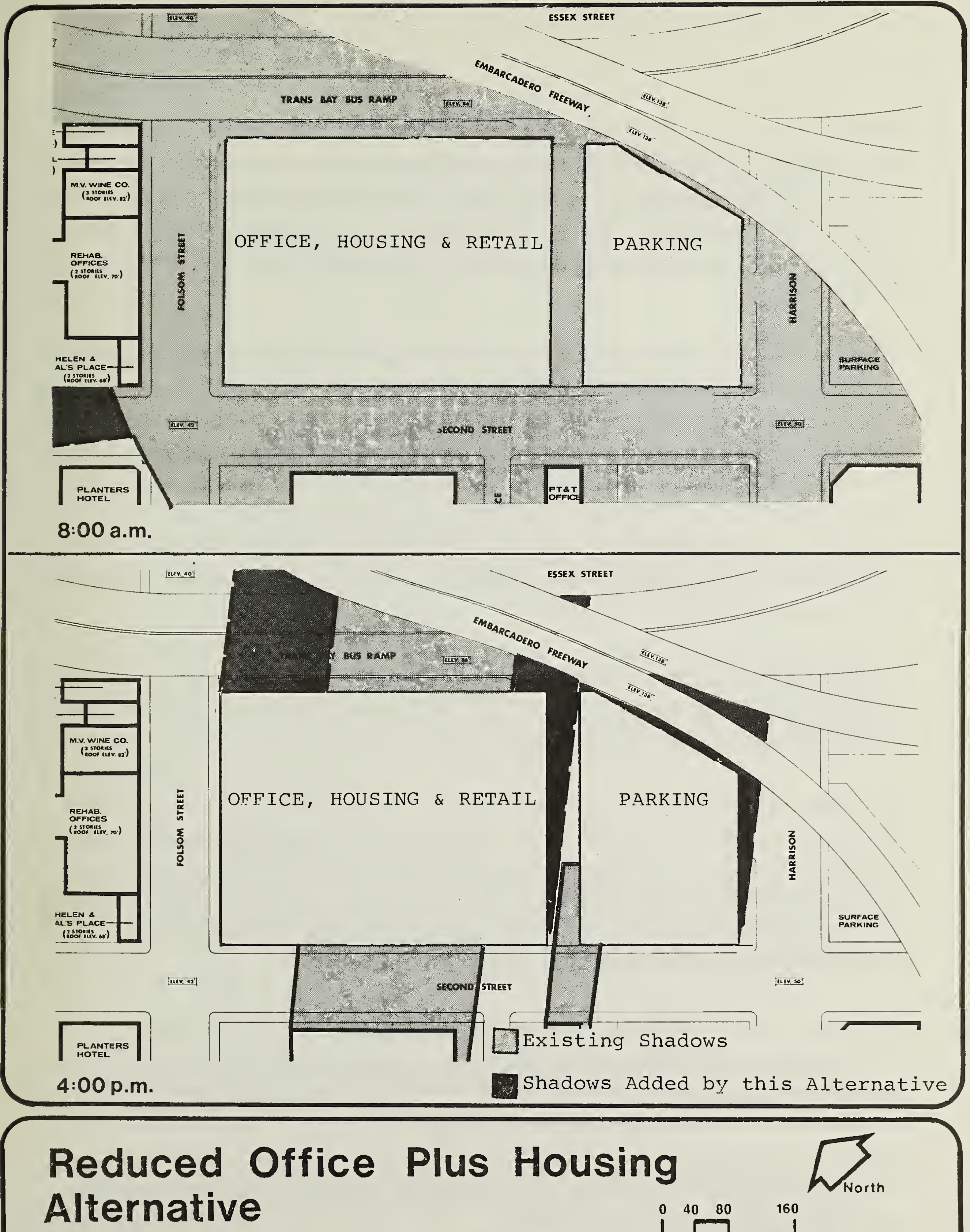
	Alternative With 227 Units	Alternative With 340 Units
OFFICE:	258,000 sq. ft.	386,000 sq. ft.
COMMERCIAL:	32,000 sq. ft.	32,000 sq. ft.
PARKING:	808 spaces	1,177 spaces
FAR:	3.14 to 1	4.60 to 1

Source: Bolles Associates

North

0 50 100 200
Scale Feet

Figure No. 37



Reduced Office Plus Housing Alternative

December 21-Shadow Pattern

Figure No. 38

Revenue to the City in terms of payroll, business tax, and utility user tax for telephone would decrease due to the reduced size of the office building. The property tax for units, utility user tax for water and energy consumption and the sales tax generated by residents could be the same or higher than the proposed project. Revenues would be less than the alternative of proposed project plus housing, but about 5 to 15% more than the proposed project.

A Planned Unit Development could permit a density of up to 340 units on the site.[1] Using the same rationale outlined at the beginning of this section, this alternative would be designed to accommodate 386,000 square feet (53%) of gross office (compared to 722,000 square feet as proposed), 32,000 square feet of gross ground floor commercial space (same as proposed) 340 units of housing, and 1,177 parking spaces. The total gross area, including parking, would be 1,075,000 square feet (125%) (compared to 859,000 square feet as proposed). Approximately 44 feet would be added to the office/retail/housing building and 20 feet would be added to the parking structure compared to an alternative with 227 units (see Figure 37, page 133).

Similar impacts as those associated with the reduced project plus 227 units of housing alternative would be realized with a PUD that would involve 340 units of housing, except the impacts would be proportionally greater.

The project sponsor rejects a reduced project to accommodate the housing demand because it would be financially infeasible. Development of a financially-feasible office project within the present height limit constraints permits utilizing only a small portion of the allowable building envelope for other types of activities. Reduction of the proposed office space and its replacement with housing units and parking facilities would increase overall project costs without a commensurate increase in project revenues.

The nearest grocery, drugstore, and similar retail services would be several blocks away at YBC (see page 128); medical and dental services, laundries and cleaners, recreation and entertainment, and similar types of personal services would not be available in the immediate area. To market housing units successfully, the project sponsor would need to provide space within the project for such activities and services. Also, the project sponsor has not managed the development and operation of housing units, and would incur costs to obtain such management expertise.

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[1] San Francisco Planning Code, Section 304(d)4 and 209.1(k).

3. Al! Housing Off-Site

This alternative would meet the 635 housing unit-demand of the proposed project off-site. The location of this housing, or whether it would be all in one location, inclusion of low and moderate income housing, and method of financing have not been determined. Any off-site housing is potentially subject to the City's 10% low and moderate income housing requirement.[1]

The addition of 635 housing units within the City would add riders to Muni lines, many of which are already congested. A residential project of this size would probably generate 4,600- 5,800 daily person trips[2] adding to the site-specific impacts of such a project. It might also reduce commute traffic and transit congestion from non-San Francisco locations.

Assuming revenues for housing are part of the proposed project, then the increase in City revenues over the proposed project could be in the range of 40 to 60% greater.

The project sponsor rejects this alternative. The project sponsor has not managed the development and operation of housing units, and would have to incur costs to obtain such management expertise. However, the City Planning Commission has required other developers of office space to provide housing as part of its approval action since November 1980.

4. Housing Project Alternative

This alternative assumes that only housing would be placed on the site (see Figure 39, page 137). Current zoning would allow 227 units. Impacts would be similar to those attributable to the housing portion of the alternatives discussed above. Spaces for 227 cars would be provided.

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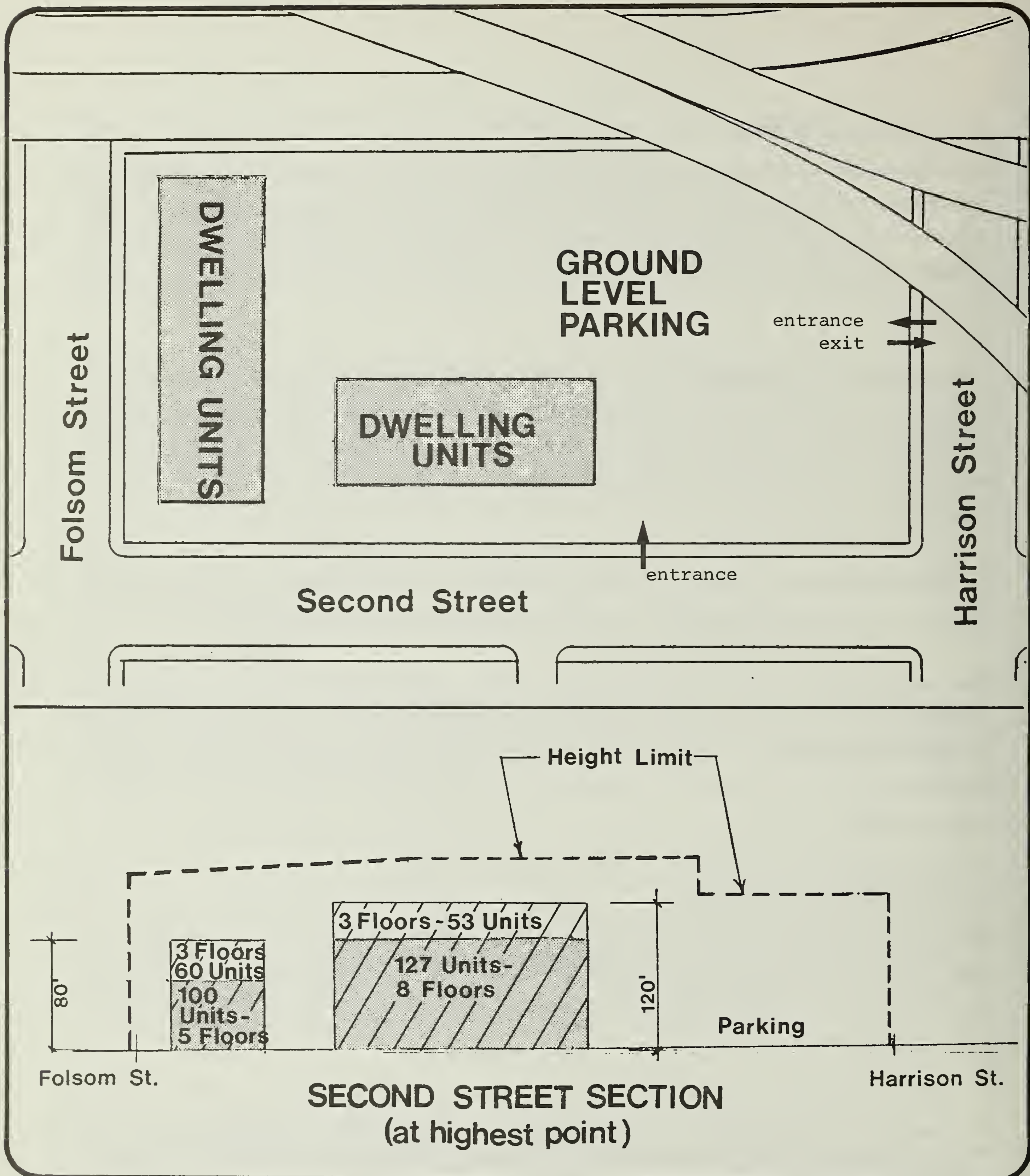
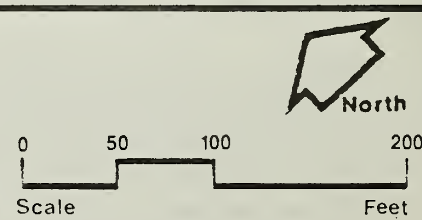
[1]Section 1341, Chapter XIII, Part II, San Francisco Municipal Code (Subdividion Code). As now worded, this requirement applies only when subsidy is available. This policy is subject to future modification.

[2]The daily traffic estimate is based upon a range of 7-9 daily person trips per dwelling unit. This range reflects trip generation research contained in the Tenth Progress Report on Trip Ends Generation, Caltrans, July 1975. The range also reflects the fact that no specific residential development has been identified. The lower trip generation rate would correspond to studio and one bedroom units while the higher rate would probably represent 2-3 bedroom units.



Housing Project Alternative

	(stippled)	(hatched)
HOUSING:	227 units	340 units
PARKING:	227 spaces	340 spaces
FAR	1.20 to 1	1.79 to 1



Source: Bolles Associates

Figure No. 39

Because of the reduced noise level below the height of the freeway and bus ramp structures, first and second story units in such a project would be exposed to an exterior nosie environment of 72 dBA, Ldn, on all building facades. This would require a 27 dBA noise reduction in order to achieve an interior Ldn of 45 dBA. Acoustical glazing (or double pane glazing) and mechanical ventilation systems would be required. For units at or above the third floor, freeway-facing facades would be exposed to an exterior noise level of 80-83 dB, Ldn. Noise reduction of 35-38 dBA would be required, necessitating acoustical glazing (or double glazing) and mechanical ventilation to achieve an interior Ldn of 45 dBA. Enclosed courtyards or similar treatments would be necessary to provide outdoor activity areas exposed to no more than 65 dBA, Ldn, in accordance with HUD standards. Satisfaction of the above criteria would be consistent with the San Francisco Noise Ordinance.

Developing the site for residential purposes would help to ameliorate the housing demand in San Francisco[1] (the extent would depend on the type of housing available, i.e., whether it would be intended for low and moderate income people, a mix, or luxury apartment condominiums).

Trip generation due to residential use of the site would probably be lower than the project as proposed because fewer individuals would enter and leave the site on a daily basis. Peak-hour trips would be outbound in the morning and inbound in the evening, in reverse to those for the proposed project and for the Central Business District in general. Traffic impacts would be expected to be less (1,000-2,000 trips per day versus 12,000 for the proposed project), while pedestrian and transit impacts owuld be either greater or less, depending on where the majority of residents would travel to work. Parking demands for residential use would probably vary depending upon the type of unit.

The surface parking area could have an adverse visual impact. Landscaping could be used to mitigate these impacts.

This alternative would use about 21 billion BTU annually, which would be a 67% reduction with respect to the proposed project.

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[1]See Appendix B, page A-35.

The shadow analysis (Figure 40, page 140) shows that this alternative would have similar shadow impacts to the office related alternatives.

Revenues to the City from residential use of the site could be less than those from office use as no payroll tax would be levied (except for personnel providing services to the residential units). Property tax may be higher than for the proposed project, depending on the size of the residential development and the relative rates of ownership turnover. The scale of this alternative would be smaller than the proposed project, therefore, utility users tax could be less than for the proposed project due to the decreased consumption of water, gas and electricity. Demands on municipal services would be greater than for the proposed project, particularly for recreational facilities and police protection because of the increased population in the area.[1] Indirect revenues related to residents spending money for goods and services (sales tax) could be 10 to 30% greater for residential use than for the proposed project. The change in revenues would be highly variable compared to the proposed project. Initially, the project may generate higher revenues, however, as the units turned over (were resold) revenues generated by the alternative could be more than the proposed project.

A Planned Unit Development could permit a density of up to 340 units on the site[2] with 340 parking spaces (see Figure 39, page 137). Similar impacts as those associated with a 227 unit housing project, except the impacts would be proportionally greater.

The project sponsor rejects a residential project as not being economically viable on this parcel of land. The allowable size of a project of only housing units would not justify development of this parcel of property. Although construction costs for this alternative would be less than those for the proposed project, revenues from marketing of the housing units would not justify development of the parcel.

The nearest grocery, drugstore, and similar retail services would be several blocks away at YBC (see page 128); medical and dental services, laundries and cleaners, recreation and

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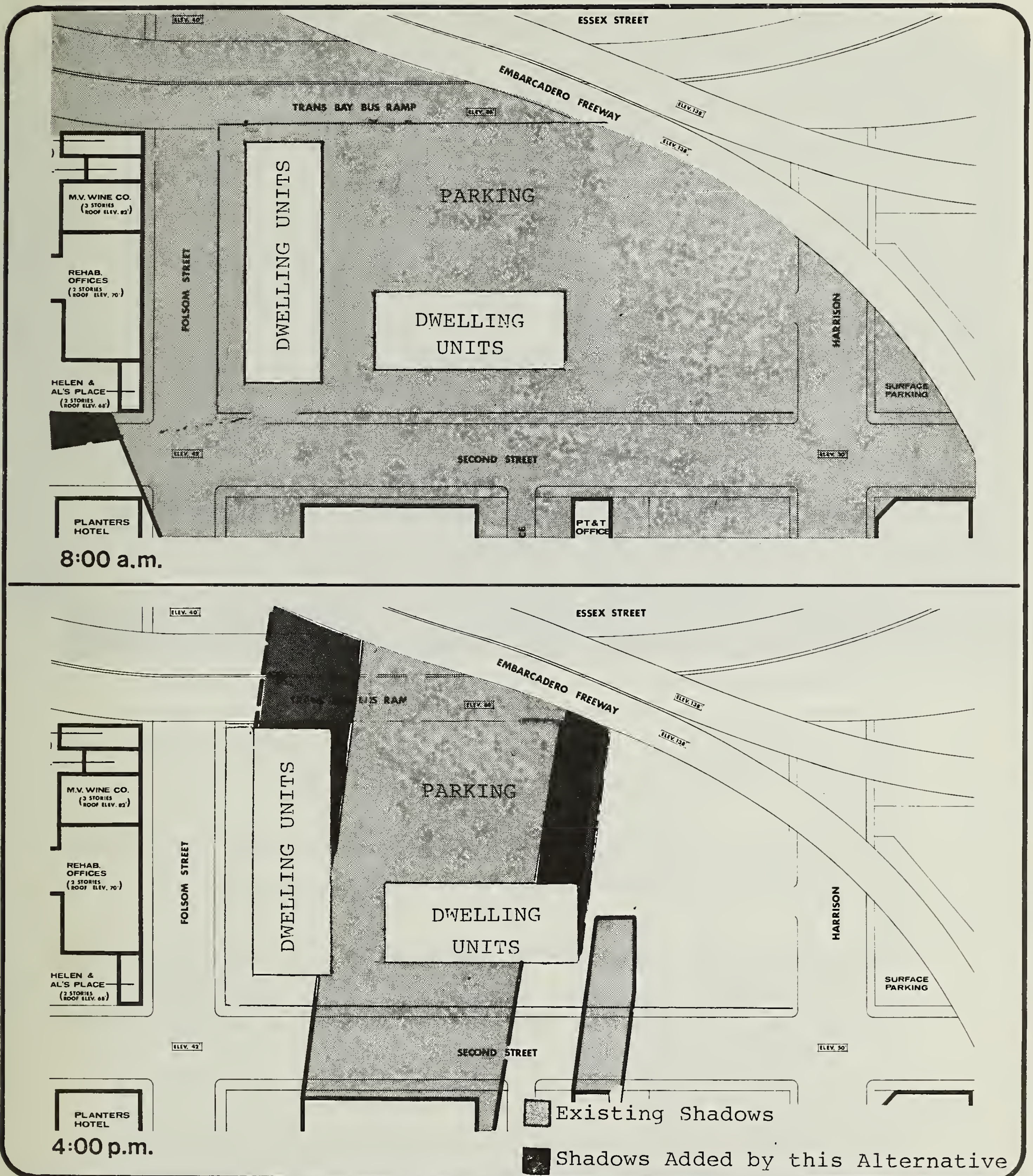
[1]Paul Libert, Officer, Planning and Research, telephone conversation, 15 May 1981.

[2]San Francisco Planning Code, Sections 304(d)4 and 209.1(k).



Housing Project Alternative

December 21-Shadow Pattern

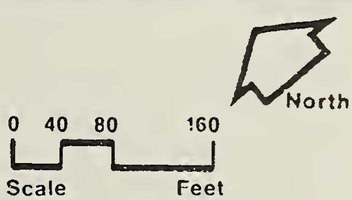


Figure No. 40

entertainment, and similar types of personal services would not be available in the immediate area. To market housing units successfully, the project sponsor would need to provide space within the project for such activities and services. Also, the project sponsor has not managed the development and operation of housing units, and would incur costs to obtain such management expertise.

D. ALTERNATIVE BUILDING DESIGN

● The project described in Section II.C., page 14, would be bulkier than the existing low-rise structures in the area. The project sponsor and its architect have continued additional architectural design studies in order to reduce the potential impacts of building form and massing. Based on these studies,[1] building design Study 4 has been adopted as the currently proposed design. Specific design modifications (see Figures 41, 42, and 43; pages 142 through 144 respectively) would include the following:

- Refinement of building forms to reduce the mass of the Folsom Street elevation, and to relate the form of that elevation to existing development across Folsom Street.

- Reduction of overall project mass through a series of setbacks at the upper levels similar to what is included in the proposed design.

- Squaring the building corners at Second and Folsom Streets, and Second and Harrison Streets to strengthen and define the existing street pattern.

- Increased continuity of interest and actities at the pedestrian level by articulating the entrances on Folsom Street and on Second Street, and by providing direct ground level access to the retail service areas along Folsom Street and within the central courtyard.

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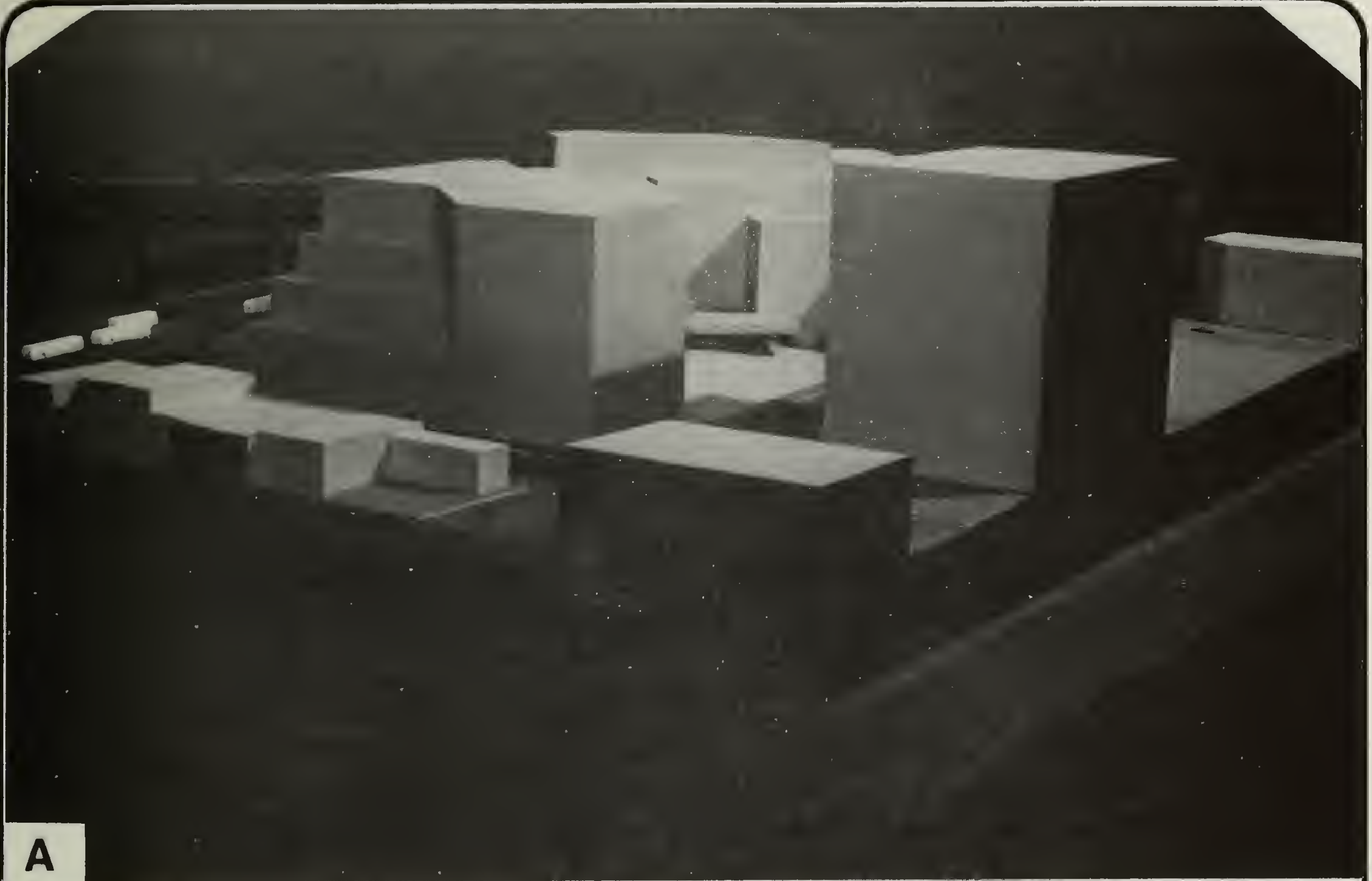
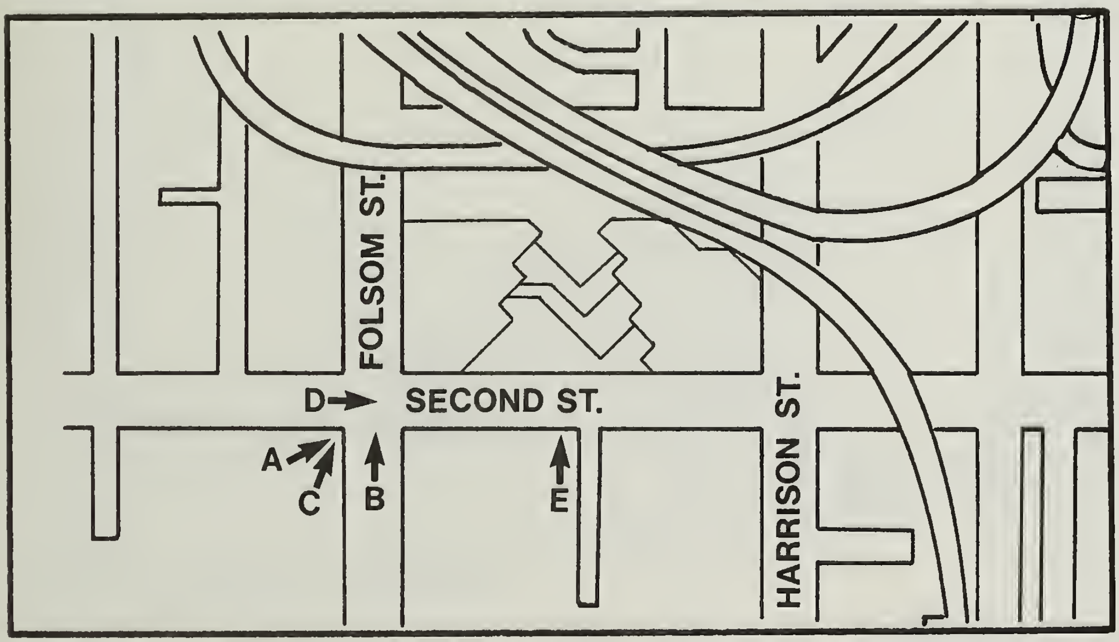
[1] See Appendix F, page A-59.

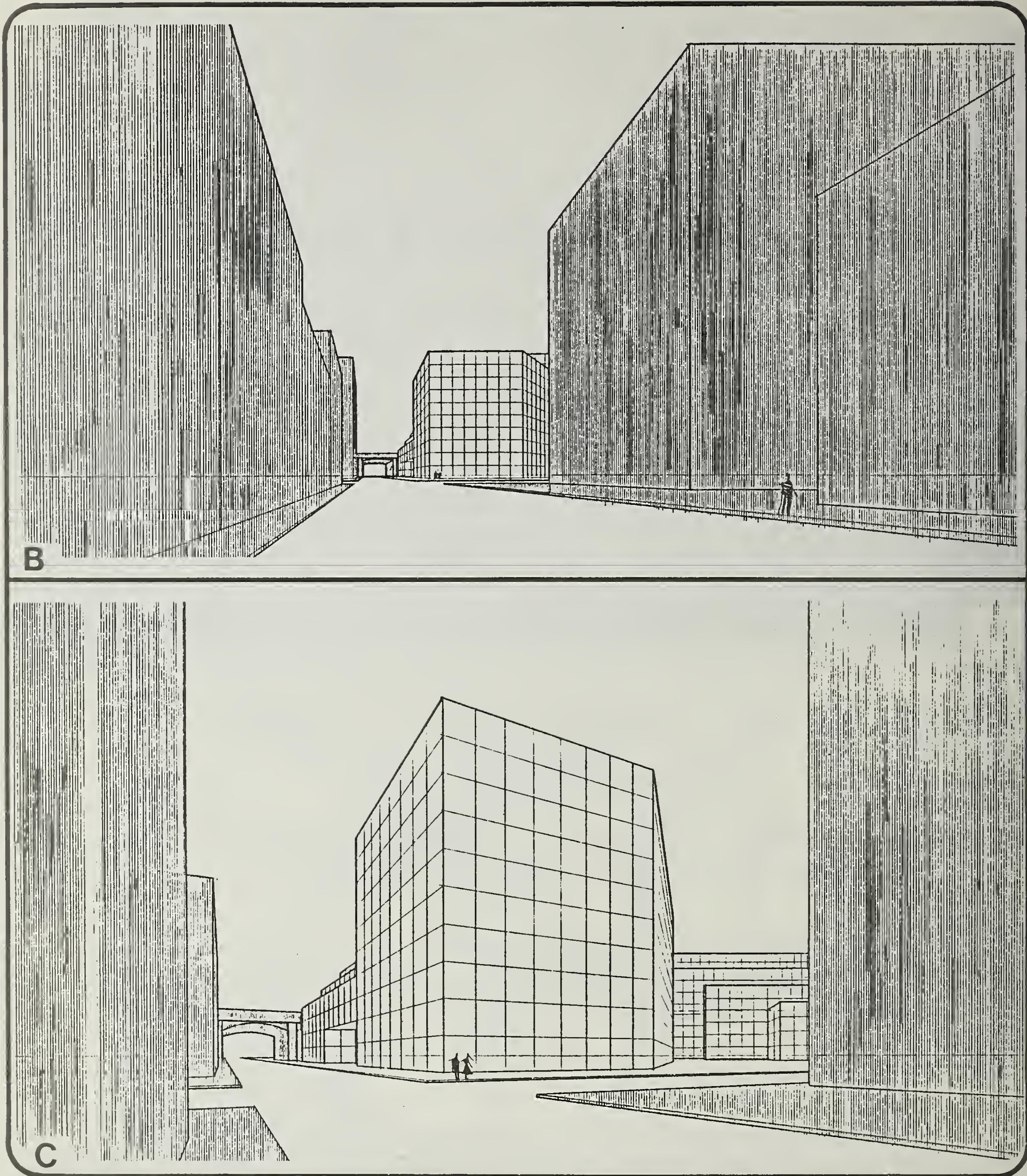




Alternative Building Design Perspective View

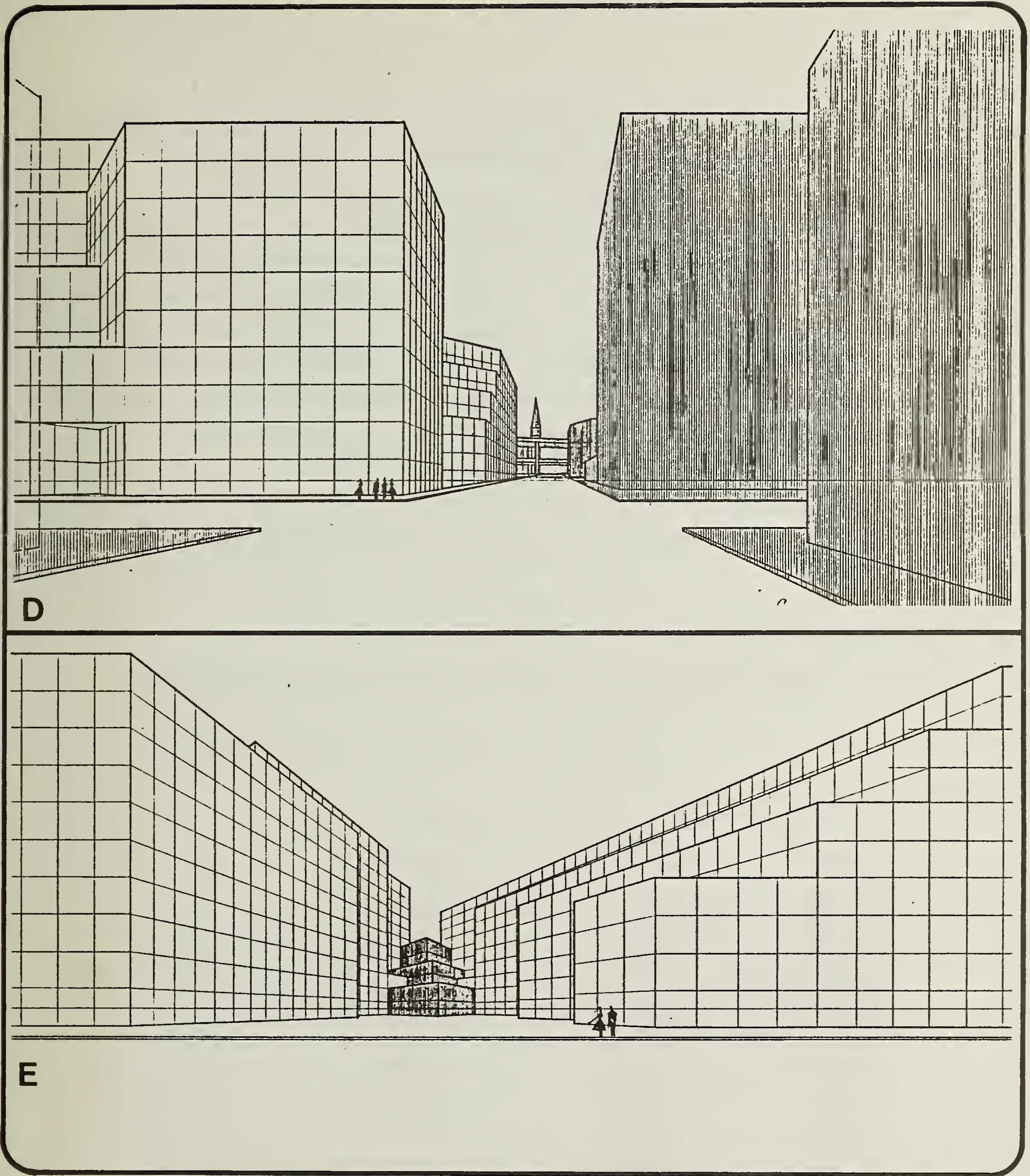
North

Figure No. 41



Alternative Building Design
Perspective View
(See Figure 41 for Orientation)

Figure No. 42



Alternative Building Design
Perspective View
(See Figure 41 for Orientation)

Figure No. 43

The overall combination of the above elements would provide an improved transition in height and mass from the surrounding forms to the elevated freeway ramps.

This alternative would provide the same amount of office, retail, and related parking areas as the proposed project. The only change would be the outward appearance of the structure and the rearrangement of the building mass. The impacts which could differ from the proposed project include code compliance, wind, shadow and energy use. Impacts related to floor area and use (i.e., employment and housing, transportation, air quality, noise, fiscal impacts, community services, historical and cultural resources, and seismicity) would be the same as discussed previously for the proposed project.

Neither Building A nor Building B exceeds the height requirements for the site (see Figure 44, page 146). The building bulk dimensions exceed the code requirements as shown in Table 21.

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[1] See footnote 2, page 56.

● TABLE 21

BUILDING BULK DIMENSIONS
ALTERNATIVE BUILDING DESIGN
(STUDY 4)

Floor Level	BUILDING A (Lot 25) Maximum Length	Diagonal Dimension	BUILDING B (Lots 25 & 51)[1] Maximum Length	Diagonal Dimension
6-7	252 feet	326 feet	274 feet	355 feet
8-9	252 feet*	326 feet*	274 feet*	355 feet*
10	252 feet*	326 feet*	274 feet*	276 feet*
11	204 feet*	218 feet*	160 feet	200 feet
12	---	---	160 feet	200 feet

Allowed on Lot 25: 170 feet (length)
(District 130-G) 200 feet (diagonal)

Lot 51: 110 feet (length)
(District 105-F) 140 feet (diagonal)

Mechanical Penthouse on Floor 11 of Building A and part of Building B
Mechanical Penthouse on Floor 12 of Building B is located on Lot 25.

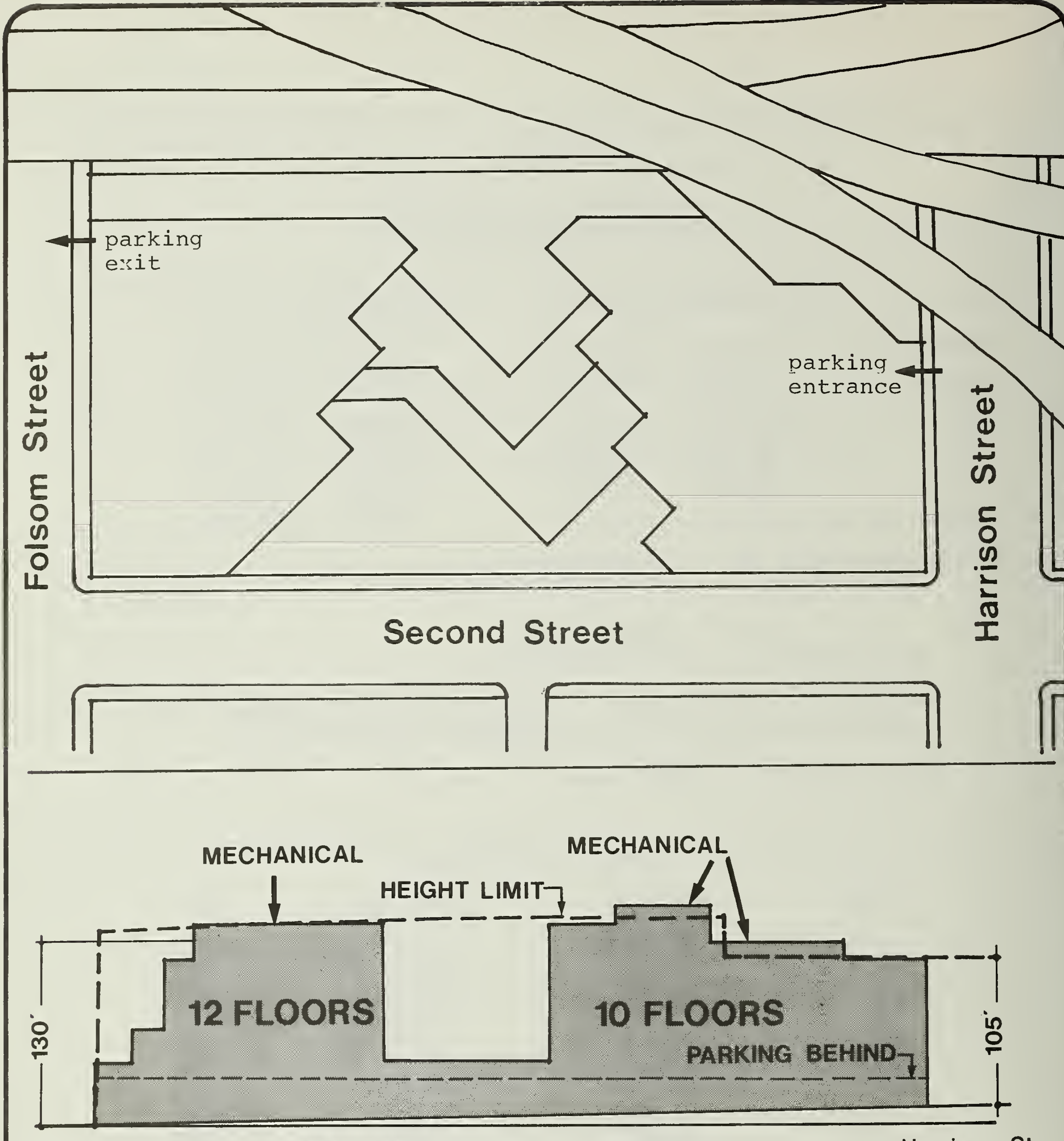
*Exceeds bulk limits above 80 feet.

GROSS FLOOR AREA

Floor	Building A	Building B	Total
G/1	27,000 SF	25,000 SF	53,000 SF
2	27,000	24,000	52,000
3	47,000	45,000	92,000
4	41,000	43,000	84,000
5	41,000	43,000	84,000
6	38,000	42,000	80,000
7	38,000	42,000	80,000
8	36,000	37,000	73,000
9	36,000	37,000	73,000
10	36,000	21,000	57,000
11	19,000	10,000	30,000
12	---	5,000	5,000
TOTAL	384,000 SF	376,000 SF	761,000 SF

Note: Totals do not add due to rounding.

[1]Building B is in 2 different height and bulk districts, see footnote 2, page 56.



SECOND STREET SECTION
(at highest point)

Alternative Building Design

OFFICE:	722,060	sq. ft.
COMMERCIAL:	32,000	sq. ft.
PARKING:	300	spaces
FAR:	5.23:1	

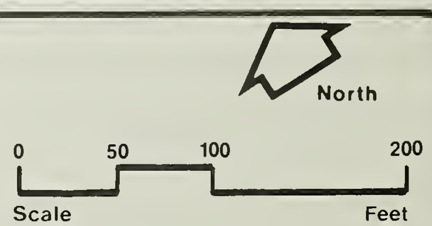


Figure No. 44

This alternative has a greater potential than the proposed project to create undesirable winds along Folsom and Second Streets. The large, unbroken vertical faces of the building would intercept a large volume of wind and could bring it down to ground level near the Second/Folsom intersection. Wind strengths along the sidewalk adjacent the project and near the Second/Folsom intersection would increase. Because the proposed building is relatively short compared to other high-rises in San Francisco, winds would not be so strong as to create a safety hazard, but the frequency of uncomfortably windy conditions would be increased. The other pedestrian areas near the site would experience winds similar to those near the proposed project.

The shadow analysis (Figure 45, page 148) shows that the effect of this alternative on shadows would be similar to the effect of the proposed project (see Figure 30, page 87).

There would be little difference in the total energy used by this alternative compared with the proposed project. This alternative design does not have an atrium as a design element. Therefore these energy effects of the proposed project (see Section IV.J.5, page 107) would not be present for this alternative.

E. LIGHT INDUSTRIAL FACILITY ALTERNATIVE

The basic floor area ratio (FAR 5:1) and the corner lot premium would allow 721,270 square feet of industrial area (the same area as allowed for proposed project).[1] This alternative addresses a project that would provide 100,000 square feet of industrial area (see Figure 46, page 149) which could include light manufacturing (when conducted within a completely enclosed building)[2] and warehousing, because single-story structures, preferably incorporating 100,000 - 200,000 square feet of space, are necessary for the safe and efficient internal movement of goods by forklift trucks and conveyor machinery. Space for the on-site movement of materials and goods usually distate a land coverage not in excess of 30 - 40%. Maximum return on investment would be achieved by the highest percentage of site coverage. However, functional and operational requirements normally

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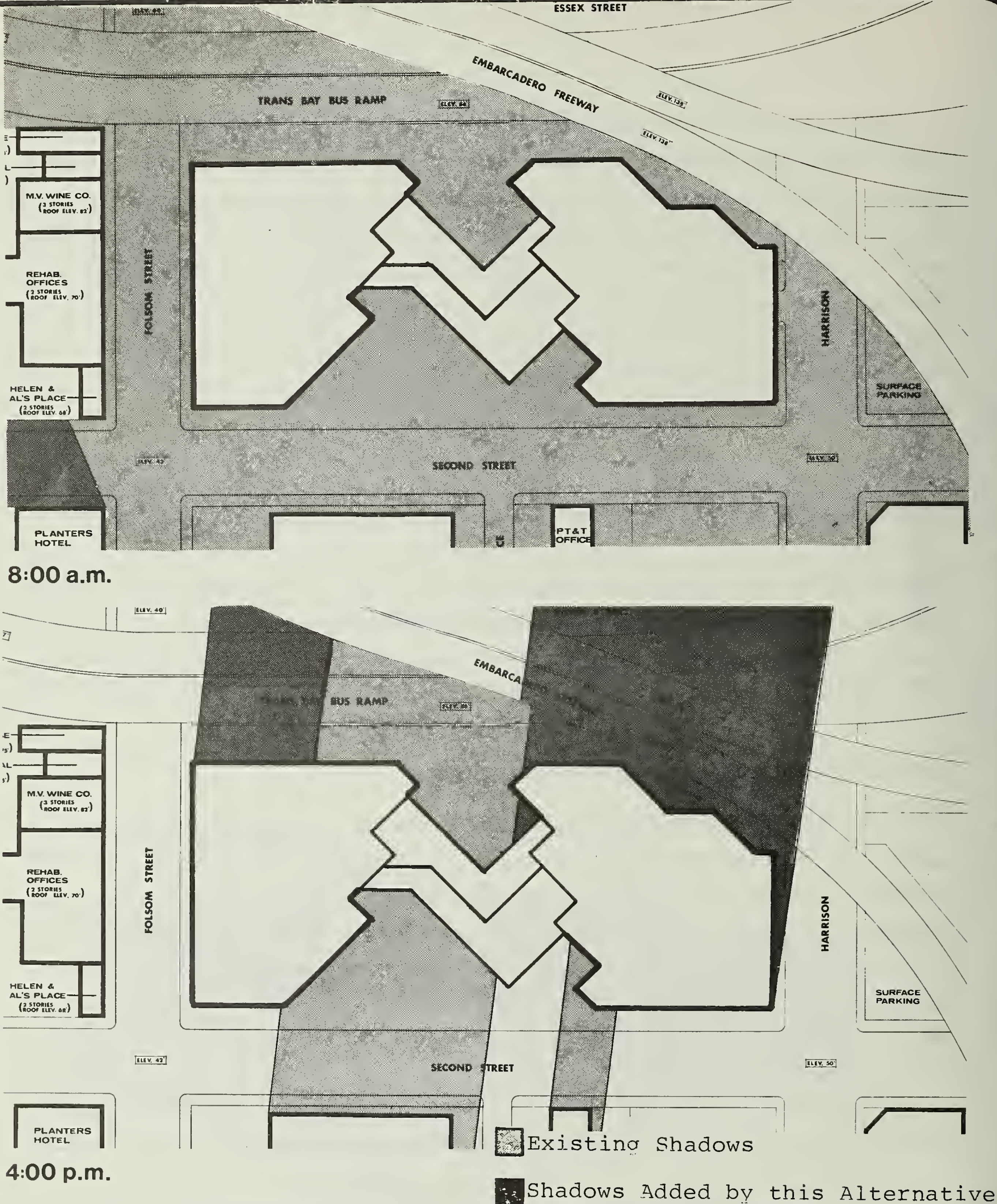
[1]See Table 1, page 28.

[2]San Francisco Planning Code, Section 226(h).



Project Alternative 4
December

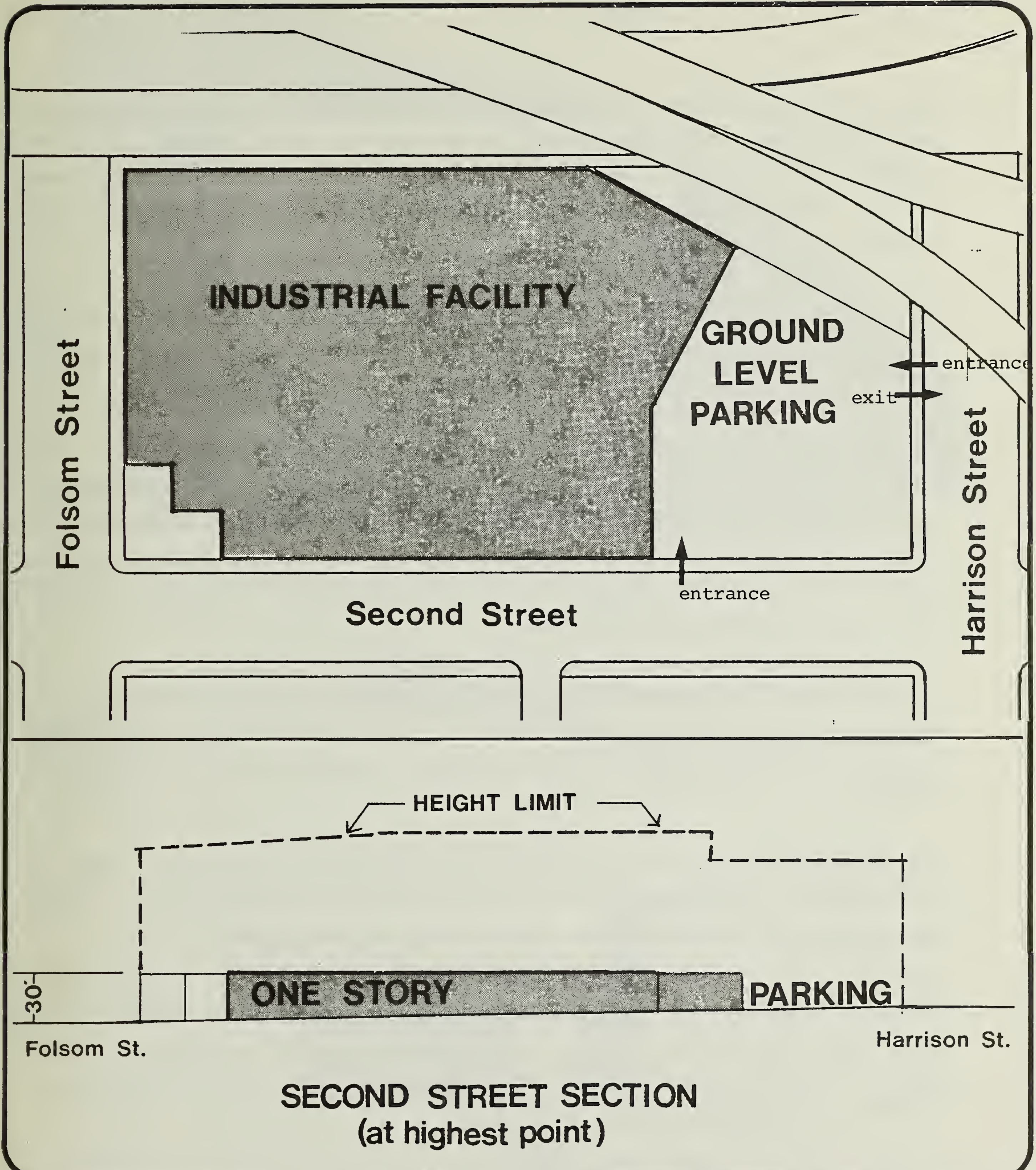
Existing Shadows

Shadows Added by Proposed Project

North

0 40 80 160
Scale Feet

Figure No. 45



Industrial Facility Alternative

WAREHOUSE: 100,000 sq. ft.
PARKING: 50 spaces (cars)
3 spaces (truck)
FAR: Less than 1:1

Source: Bolles Associates

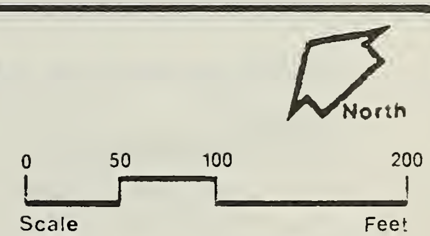


Figure No. 46

limit the building coverage of industrial uses. Warehouse uses can occupy up to 50% of a typical site, whereas light manufacturing uses have greater parking needs and usually are limited to approximately 30% building coverage of the site.[1] Fifty to 67 parking spaces would be required depending on the use.[2] Two off-street freight loading spaces would be required.

A project of 100,000 square feet area would result in reduced transportation impacts (as compared to the proposed project). Daily person trip generation would be about 90% lower than that calculated for the proposed project.

Industrial facility land uses are considered relatively insensitive to noise impacts, and would be compatible with the existing noise environment of 72 dBA, Ldn, at levels below the third floor of such buildings. This would be a compatible noise environment for industrial activities, and no special acoustical consideration would be required to comply with San Francisco Comprehensive Plan Noise Element Standards. There are no pertinent exterior noise standards for such land uses.

A 100,000 square foot storage facility would consume about 10 billion BTU annually. This is about 12% the use of the proposed project. Light manufacturing would probably consume more energy, however, due to the diversity of possible uses this quantity is not estimable.

The shadow analysis (Figure 47, page 151) shows that while the shadows cast at 8:00 a.m. do not extend as far northwesterly as the proposed project, the effect on the buildings across Folsom Street would be similar to those of the proposed project.

Revenues to San Francisco would be less than from the proposed project (indirect taxes such as sales would be less as well as direct taxes from property, business, and utility users). The range would be 40% to 90% less depending on rental rates, number of employees, and property values.

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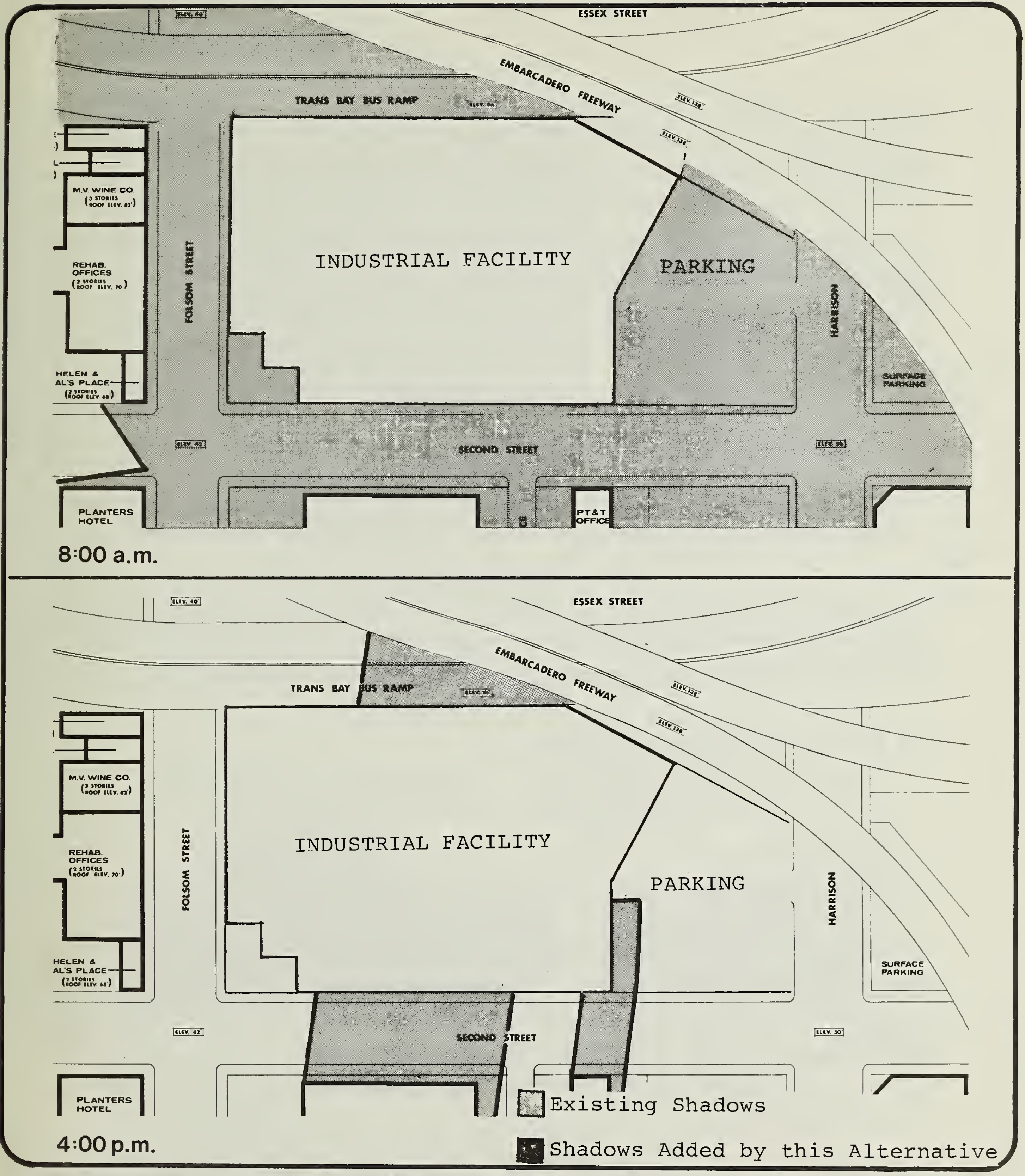
[1] Urban Land Institute, Industrial Development Handbook, 1975, p. 128.

[2] San Francisco Planning Code, Section 151.



Industrial Facility Alternative

December 21-Shadow Pattern

North

0 40 80 160

Scale Feet

Figure No. 47

The project sponsor rejects such an industrial facility as an alternative to an office/commercial development as that proposed, because the sponsor feels that no potential tenant could be found to occupy or construct a warehouse on this site because such facilities require low-cost land. Normally a site of 10 - 15 acres is preferred with uncongested connections between local streets and the freeway system. Large truck staging and maneuvering areas (often 1-2 acres in size), wide streets, generous curb radii and ready access to rail service are sometimes preferred. The SP tracks on Harrison Street are no longer used. Switch trains use the tracks on Second Street only up to Brannan Street.[1]

F. OFFICE/RETAIL PROJECT COMPLYING WITH PLANNING CODE

This alternative would provide for an office/retail project that does not exceed the height and bulk limits (see Figure 48, page 153) and would be limited to an FAR of 5:1. A separate parking structure would be considered for the same reasons stated in Section VII.C.2, page 132. In order to design a project that would meet the height and bulk limits, the gross building area would be reduced, thereby also reducing bulk and the number of required parking places. This alternative would then provide the following:

- 491,500 gross square feet office
  25,000 gross square feet retail
  516,500 gross square feet total
  3.58 : 1 FAR
  909 parking spaces

This alternative would balance the office development with an on-site parking supply as specified by the City Planning Code. The parking impacts of the proposed project would be mitigated by this alternative. The overall traffic and transit impacts in the downtown would be approximately 60-65% of those estimated for the proposed project. With parking focused on-site, traffic impacts would be more pronounced at entry/exit points (see Figure 48, page 153).

This alternative would comply with the height and bulk limits and would have a different visual impact from the impact of the proposed project.

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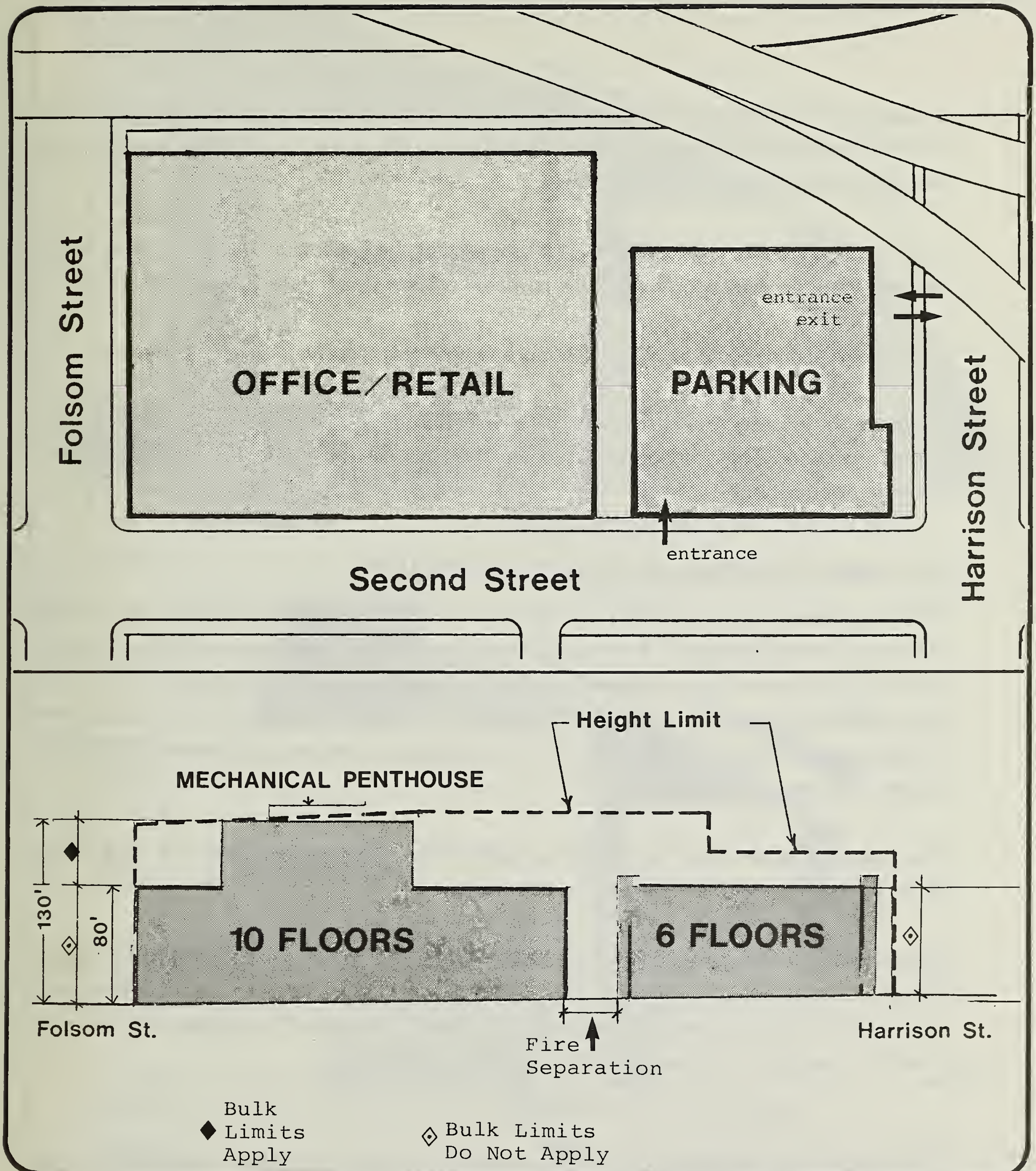
[1] Jackie Biglow, SP Train Master, telephone conversation, 9 September 1981.



Office/Retail Alternative Project Complying with Planning Code

North

0 50 100 200
Scale Feet

OFFICE/RETAIL: 516,500 sq. ft.
PARKING: 909 spaces
FAR: 3.58:1

Source: Bolles Associates

Figure No. 48

Energy use under this alternative would be about 50 billion BTU per year, some 33% less than for the proposed project. The bulk of the reduction would come about as a result of the reduction in the area of office space.

The shadow analysis (Figure 49, page 155) shows that the impacts of this alternative would be similar to the shadow effects of the proposed project (see Figure 30, page 87).

Total tax revenues could be about 15% more to 30% less than the proposed project.

● Since this alternative would require a 32% reduction in office space in order to meet the parking requirements, the project sponsor does not consider this to be a financially feasible alternative.

G. GUIDING DOWNTOWN DEVELOPMENT ALTERNATIVE

The City Planning Commission is currently studying the need for and impact of revising downtown zoning controls. A set of proposed revisions to downtown and related zoning controls are presented in a document entitled Guiding Downtown Development, May 1981. By resolution No. 8982, the City Planning Commission directed that an alternative building proposal that would comply with the proposed controls be evaluated in all EIRs prepared subsequent to June 1981.

The proposed guidelines that would be applicable to the project site deal with FAR, housing, truck loading requirements, and industry.

The proposed housing requirements[1] would require 640 square feet of residential space (about 0.9 dwelling units) for each 1,000 square feet of gross office space. For a project the size of that proposed, 650 housing units would be required, calculated as shown in Table 22, page 156. This would result in an FAR of 8.4 to 1.

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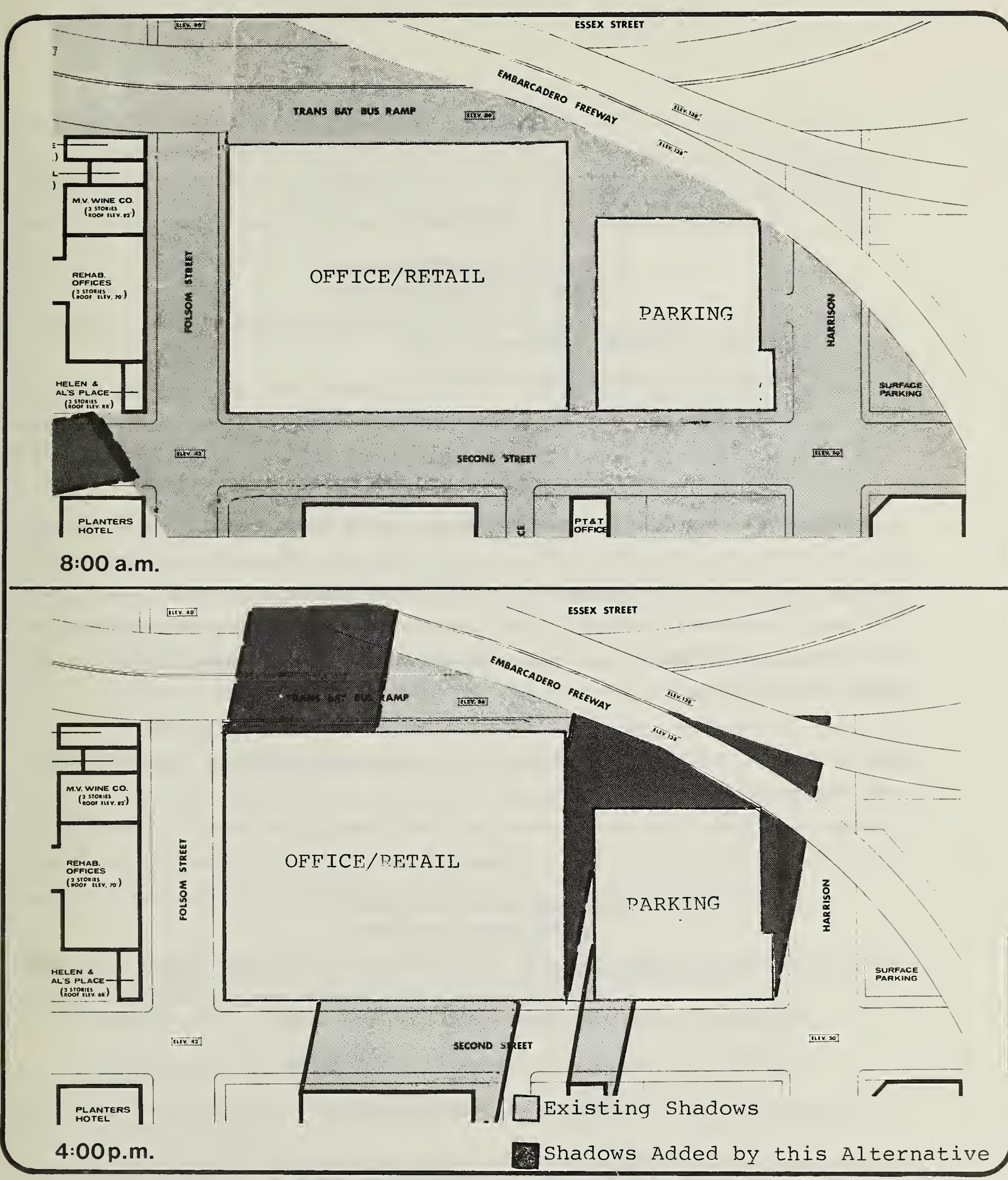
[1] San Francisco Department of City Planning, Guiding Downtown Development San Francisco, May 1981, page E-1.



Office/Retail Alternative Project Complying with Planning Code

December 21-Shadow Pattern

North

0 40 80 160

Scale Feet

● Figure No.49

TABLE 22

Proposed Housing Requirements
Based on Gross Office Area

722,000 sq. ft. (office) - 1,000 sq. ft. = 722

722 x 640 sq. ft. = 462,800 sq. ft. housing

722 x 0.9 units = 649.8 units.

As discussed in Section VII.C., page 126, current zoning would allow 227 units on site based on the nearest R district (RC-2) or 340 units with Planned Unit Development. Assuming the Rincon Hill area would be zoned RC-4 (1 dwelling unit per 200 square feet of lot area),[1] as currently proposed by the Guidelines, up to 682 units would be allowed on the proposed project site. Any housing on-site added to the proposed project would require a zoning change.

Based on a project similar to that proposed and the proposed guidelines,[2] approximately 8 truck loading spaces would be required calculated as shown in Table 23.

TABLE 23

Loading Space Requirements
Based on Net Floor Area

- 570,710 sq. ft. office/bank @ 0.1/space/10,000 sq. ft. = 5.7 spaces
- 10,000 sq. ft. restaurant/drugstore @ 1.7 space/10,000 sq. ft. = 1.7 spaces
- 11,240 sq. ft. other retail @ 1 space for 10,000-50,000 sq. ft. = 1.0 space

Total = approximately 8 spaces

[1] City and County of San Francisco, Planning Code, Section 209.1(1).

[2] San Francisco Department of City Planning, Guiding Downtown Development, San Francisco, May 1981, page D-8.

Each space is required to have a minimum length of 35 feet and a minimum width of 10 feet. Eight such spaces would yield 2,800 square feet of truck loading. The project as proposed (4 large truck loading areas 16 feet by 35 feet each, plus 4 van loading areas 8 feet by 20 feet each) would provide 8 loading spaces yielding a loading area of 2,880 square feet.

Revenues for this alternative would be about the same as the proposed project.

It is also proposed that the Planning Code be revised to make primary office and residential uses conditional uses in the C-M, M-1, and M-2 districts.[1] Prior to approving the conditional use, the City Planning Commission would be required to find that:

1. the site is not likely to be marketable for industrial use in the foreseeable future;
2. the office or residential use will not be incompatible with industrial uses on adjacent properties; and
3. if the proposed use is office use within the area bounded by Channel Street, Eighth Street, The Embarcadero and the northerly edge of the M-1 district generally along Folsom Street, the character of the office use will be of a service nature to the downtown.

This alternative would not comply with the recommendations of SPUR.[2] SPUR recommends 160 dwelling units per acre and a commercial/office FAR of 2:1. This FAR would allow approximatley 288,000 square feet of gross commercial/office area.

The project sponsor rejects the housing portion of this alternative because of economic reasons, as previously stated in Section VII.C.1., page 131.

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[1] San Francisco Department of City Planning, Guiding Downtown Development, San Francisco, May 1981, page G-1.

[2] SPUR, South of Market: A Plan for San Francisco's Last Frontier, June 1981.

CHAPTER VIII

SUMMARY OF COMMENTS AND RESPONSES

CONTENTS

I. LIST OF COMMENTORS

A. PERSONS COMMENTING AT THE PUBLIC HEARING, 17 DECEMBER 1981

1. Toby Rosenblatt, President, City Planning Commission
2. Susan Bierman, member, City Planning Commission
3. Norman Karasick, alternate, City Planning Commission
4. C. Mackey Salazar, member, City Planning Commission
5. Yoshio Nakashima, member, City Planning Commission
6. Rolf Wheeler, Marathon Development California Inc.
7. John Elberling, San Franciscans for Reasonable Growth
8. David Jones
9. Kay Pachtner, San Francisco Consumer Action
10. Sue Hestor

B. PERSONS COMMENTING IN WRITING

John Elberling
San Franciscans for Reasonable Growth
Letter of 7 December 1981

Arlyn Golder
California Archaeological Site Survey, Regional Office
Letter of 24 November 1981

Gary Agid, Chief
Local Project Support Branch
Regional Programs Division
Air Resources Board
Letter of 22 December 1981

Walter Gruenwald
Letter of 18 December 1981

Michael A. Visconti, Manager
Plan and Program Review
Association of Bay Area Governments
Letter of 4 January 1982

Rob Edwards
Clearinghouse Coordinator
Society for California Archaeology
Letter of 25 September 1981

Paul H. Hughes
Acting District CEQA Coordinator
Department of Transportation - District 04
Letter of 29 December 1981

II. RESPONSES TO COMMENTS

A. PROJECT DESCRIPTION

COMMENT

Commissioner Bierman

> "Page 59. There's some language about the design. And I read the language and then I looked at the drawings. Now I hear that it's really not the preferred project. So maybe it isn't (any) more. But I was not able to tell what this project really is going to look like.
>
> "It talks about policy for neighborhood environment 13, improved pedestrian areas by providing human scale and interest, and then it has a paragraph about how it does that. And I don't think the design that was the preferred — the original design treated Folsom Street — it was never clear to me whether it had enough visual interest or pedestrian-oriented uses, (it) had a big wall. Now they talk about a metal railing. There's no picture of it. And even though this may be discarded, it seems to me that for accuracy, there ought to be a better drawing or something about what the original project looked like."

Chairman Rosenblatt

> "On page 10, we have a discussion in the preferred proposal. Could we get an indication of the square footage on each floor for Building A and Building B, simply the office sections."

RESPONSE

The model photo (page 15) illustrates the concept of a wall flanking the Second Street entrance as part of the proposed landscape design for the central courtyard. This comment concerns a matter of design detail that will be resolved with all parties as the design review process proceeds. The project architect was instructed to delete the wall shown in the original concept design and to replace it with a metal railing, as indicated on page 59 of the EIR. Visual access to the courtyard would be unobstructed, pedestrian

scale would be maintained and security for the building tenants would be provided as needed.

Figure 4 has been revised to indicate that the wall as shown would be built as metal railing.

Several photos of the model are included in the EIR which illustrate the proposed project. These model photos show the proposed project as viewed from above Second Street (page 15), viewed from the rear from Rincon Hill (page 61) and a close-up view of the central courtyard (page 21). Perspective drawings are shown on pages 20, 22, 25-26, and 63.

Page 10 of the EIR discusses the proposed project. The Alternative Building Design concept referred to is discussed in Section VII and is based on Study 4 discussed in Appendix F. The square footage of each floor, for the proposed project has been added to Table 5, page 56 of the EIR. The square footage for the Alternative Building Design (Study 4) has been added to Table 21.

B. URBAN DESIGN

COMMENT

Commissioner Bierman

> "Since there are plans in the department to have that freeway torn down, most -- many of which plans have to do with aesthetics and removing an ugly object. It seems to me that this particular project is a good time to start with tying the design into something that will be compatible with residential area next to it."

Commissioner Nakashima

> "On page 58. It says relate to bulk of buildings to the prevailing scale. And their only relation is to the PT&T building. And it seems to me that if you've got a project, you don't want to relate it to a building that's not necessarily of a quality that you want to relate it to. So I don't know -- to me PT&T building is not a building that I would have been proud to have been associated within its development."

> "Then it says respect the character of older development nearby in design of new building. And I guess maybe Alternative 4 comes closer to it than the original one.

Building A

Building B

Project Model as Viewed from Second Street

Figure No. 4

NOTE: Wall along Second Street would be built as a metal railing.

TABLE 5

BUILDING BULK DIMENSIONS

Building Level	Building A (Lot 25) Maximum Length (feet)	Building A (Lot 25) Diagonal Dimension (feet)	Building B (Lots 25 & 51)[1] Maximum Length (feet)	Building B (Lots 25 & 51)[1] Diagonal Dimension (feet)
6-7	258	276	258	288
8-9	194*	234*	226*	260*
10	168	212*	196*	220*
11	146	196	176*	206*

Allowed on Lot 25: 170 feet (length)
(District 130-G) 200 feet (diagonal)

Lot 51: 110 feet (length)
(District 105-F) 140 feet (diagonal)

*Exceeds bulk limits above 80 feet.

GROSS FLOOR AREAS

Floor	Building A	Building B	Total
G	24,000 SF	---	24,000 SF
1	25,000	25,000 SF	50,000
2	32,000	27,000	59,000
3	45,000	42,000	88,000
4	45,000	42,000	88,000
5	45,000	42,000	88,000
6	42,000	37,000	79,000
7	42,000	37,000	79,000
8	33,000	831,000	64,000
9	33,000	31,000	64,000
10	19,000	19,000	38,000
11	17,000	17,000	35,000
TOTAL	403,000 SF	351,000 SF	754,000 SF

Note: Totals do not add due to rounding.

[1] In measuring the bulk of Building B, the entire building cannot exceed the bulk dimensions of the least restrictive district (130-G) and that portion of the building located in the more restrictive district (105-F) cannot exceed the bulk dimensions of that more restrictive district. Robert Passmore, Zoning Administrator, interpretation, 3 November 1981.

TABLE 21

BUILDING BULK DIMENSIONS
ALTERNATIVE BUILDING DESIGN
(STUDY 4)

Floor Level	BUILDING A (Lot 25) Maximum Length	BUILDING A (Lot 25) Diagonal Dimension	BUILDING B (Lots 25 & 51)[1] Maximum Length	BUILDING B (Lots 25 & 51)[1] Diagonal Dimension
6-7	252 feet	326 feet	274 feet	355 feet
8-9	252 feet*	326 feet*	274 feet*	355 feet*
10	252 feet*	326 feet*	274 feet*	276 feet*
11	204 feet*	218 feet*	160 feet	200 feet
12	—	—	160 feet	200 feet

Allowed on Lot 25: 170 feet (length)
(District 130-G) 200 feet (diagonal)

Lot 51: 110 feet (length)
(District 105-F) 140 feet (diagonal)

Mechanical Penthouse on Floor 11 of Building A and part of Building B
Mechanical Penthouse on Floor 12 of Building B is located on Lot 25.

*Exceeds bulk limits above 80 feet.

GROSS FLOOR AREA

Floor	Building A	Building B	Total
G/1	27,000 SF	25,000 SF	53,000 SF
2	27,000	24,000	52,000
3	47,000	45,000	92,000
4	41,000	43,000	84,000
5	41,000	43,000	84,000
6	38,000	42,000	80,000
7	38,000	42,000	80,000
8	36,000	37,000	73,000
9	36,000	37,000	73,000
10	36,000	21,000	57,000
11	19,000	10,000	30,000
12	—	5,000	5,000
TOTAL	384,000 SF	376,000 SF	761,000 SF

Note: Totals do not add due to rounding.

[1]Building B is in 2 different height and bulk districts, see footnote 2, page 56.

But I think you only respect the character of old development only if it's of a quality that we'd like to continue to see in the city."

Paul Hughes, Caltrans District 04, letter of 29 December 1981

"The proposed Building B may have a significant adverse impact on the southbound freeway horizontal sight distance at the curve."

"On pages 25 and 26, Perspective Views A and C seem to be reversed based on Figure #13 on page 24."

RESPONSE

The freeway and bus ramps located behind the project site are not proposed for removal. Alternatives under consideration for the I-280 Transfer Concept Program provide for demolition of The Embarcadero Freeway between Main Street and Broadway.[1]

The PT&T Building and other higher buildings in the area are part of the existing environment. The discussion on page 58 of the EIR relates to the bulk of the proposed buildings and to their relationship to other buildings in the area, including the height and bulk of adjacent structures and the freeway.

The EIR states on page 59 that exterior color treatment of the building would blend with the existing colors of the area. The exterior detailing of the building would reflect the simpler building lines of current highrise construction. It would be dissimilar to older buildings across Folsom Street.

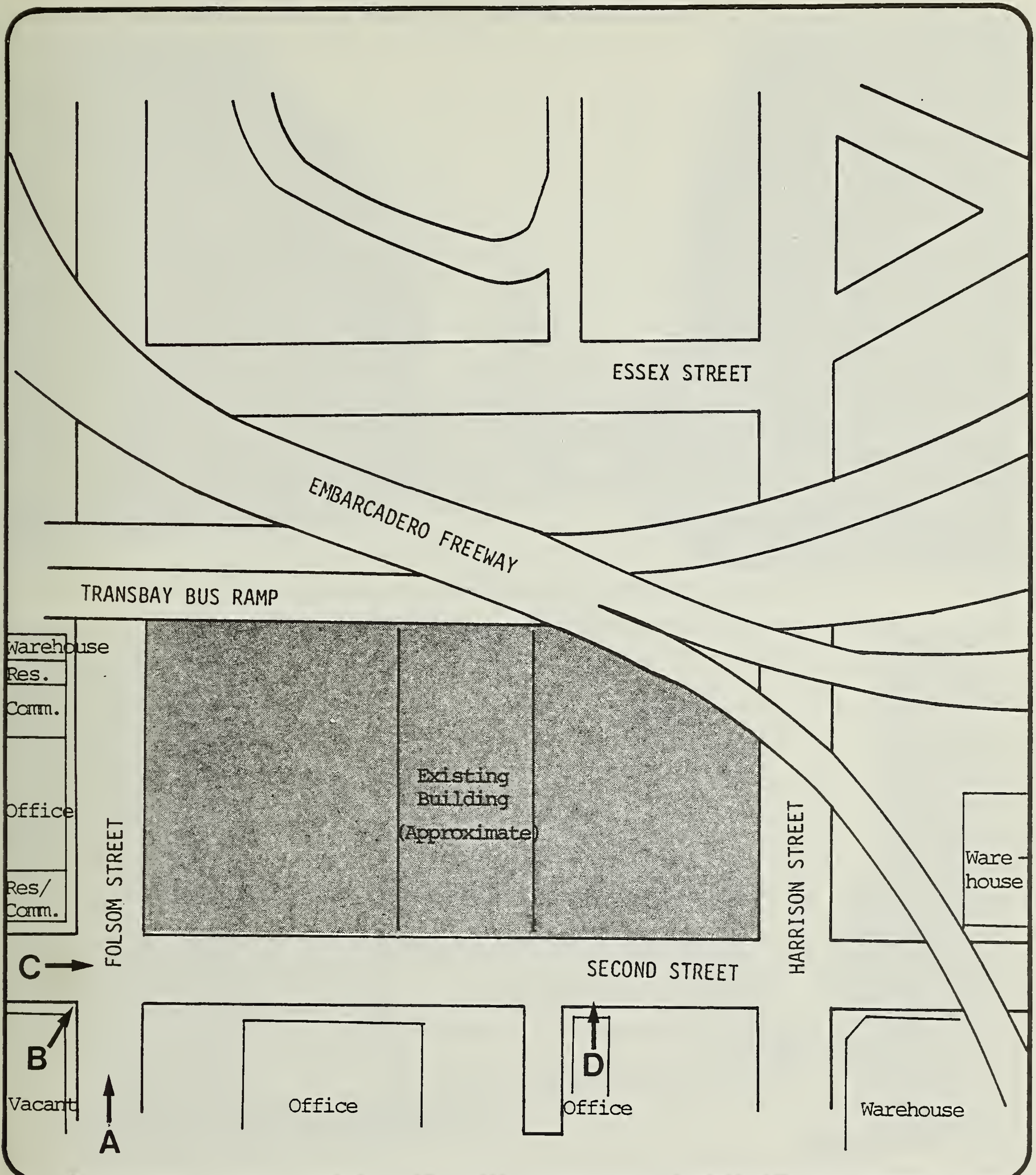
The proposed project (Building B) would partially obstruct horizontal visibility on the Embarcadero Freeway connector. The project would limit sight distance to about 500 feet, a distance which is recommended for design speeds of 55-60 miles per hour.[2]

The viewing location designated "A" is moved south on Folsom Street as shown on Figure 13, page 24. Figures 14 and 15, pages 25 and 26, are corrected to show the current perspective views.

---

[1] Department of Transportation, letter dated 29 May 1981, "SF-280 I-280 Transfer Concept Program."

[2] Caltrans, Highway Design Manual, August 1, 1975 (revised February 1, 1980), Figure 7-201.6.

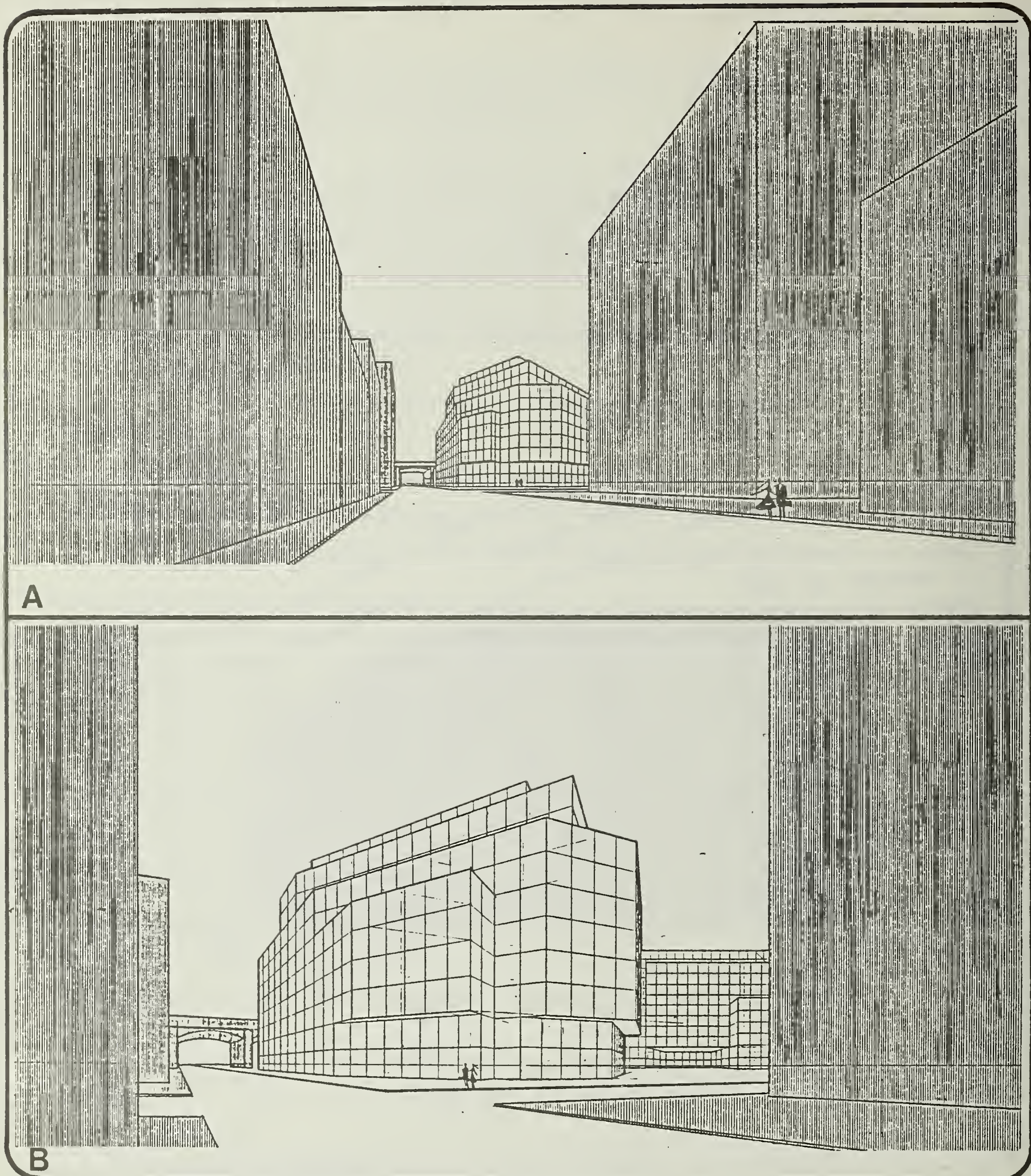


Perspective Viewing Locations

A → Location and Line of Sight

North

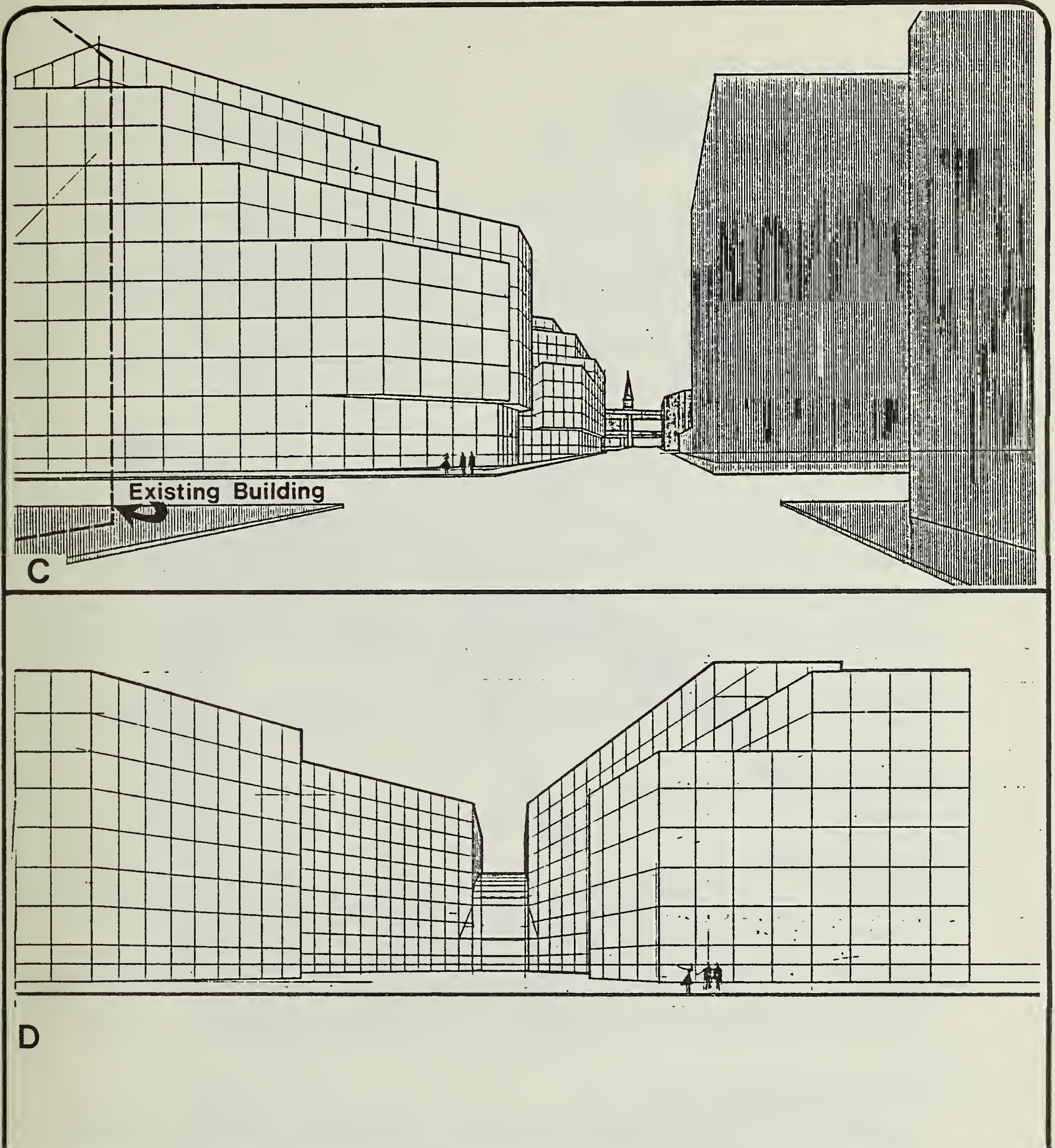
Figure No. 13



Perspective Views of Proposed Project

See Figure 13 for orientation

Figure No. 14



Perspective Views of Proposed Project

See Figure 13 for orientation

Figure No. 15

C. SHADOWS

COMMENT

Commissioner Bierman

"Page 121 is the first time it's mentioned... about the PT&T plaza being shadowed.

"The shadow diagram needs to have bigger print for the human eye to see. And it needs to have a shadow diagram of that plaza for anytime that plaza has users. I'm thinking particularly from 10:00 in the morning until 4:00 in the afternoon, and particularly the noon hour up until 2:00 or 3:00. And I'd say for all year round."

RESPONSE

The shadowing of PT&T plaza is mentioned on page 86, paragraph 4. The PT&T building itself shadows the plaza from 10:00 AM to 4:00 PM during all 4 seasons, as shown on Figures 30, 31 32; pages 87-89, while the proposal would shade the plaza only early mornings during the winter months.

As requested, the labels on Figures 30, 31, and 32 have been redone in a larger typeface.

D. EMPLOYMENT AND HOUSING

COMMENT

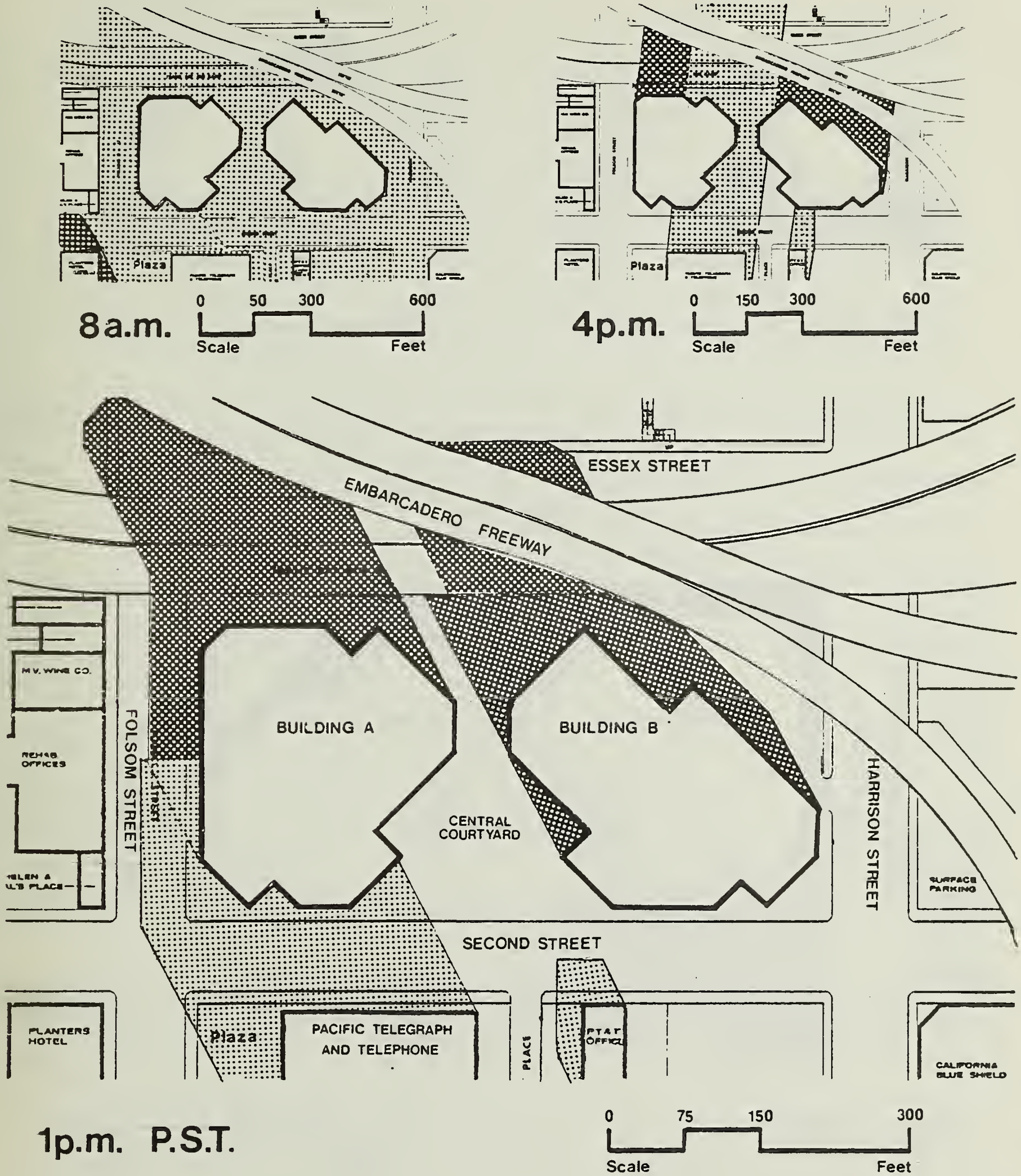
Chairman Rosenblatt

"On page 64 in footnote 4, there is a discussion about housing demand relative to occupancy of the building, which indicates a considerably different range of numbers than we are discussing elsewhere. Could we have a review and a comparison with the department's formulas, and some discussion as to why they're different?"

Commissioner Bierman

"Page 131, and the same holds true for page 135. There's a very disturbing paragraph and a presumption and it caught my eye particularly because I look on this area as a housing resource. Rincon Hill, YBC condos, other parts of the area that we all know are going to be built in.

"They are making the point that the alternative where they would be required to put housing on the site, or where they would be willing to put housing on the site, not required, isn't satisfactory because:

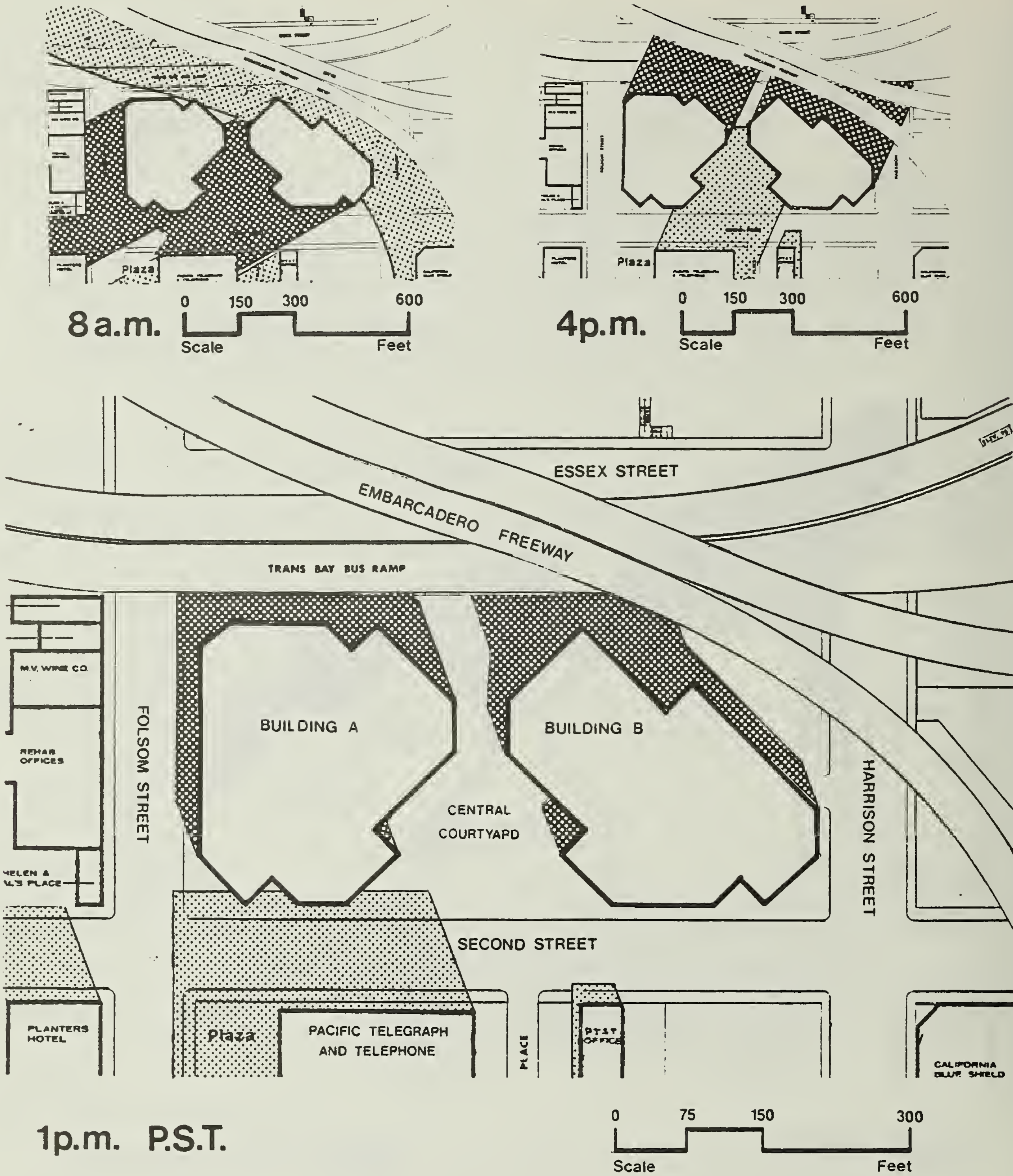


Shadow Patterns December 21

Existing Shadows

Shadows Added by Proposed Project

Figure No. 30



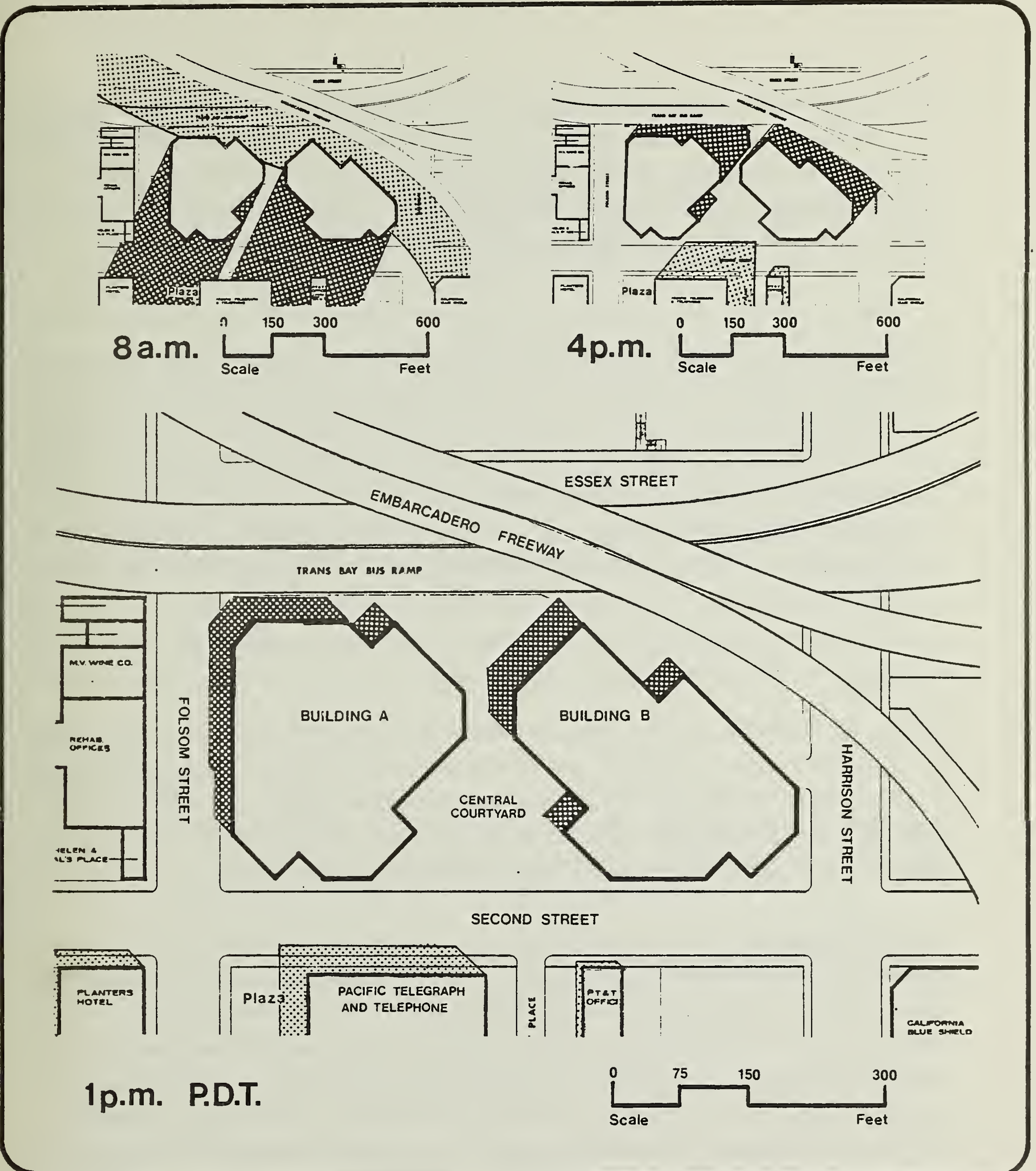
Shadow Patterns
March 21/September 21

Existing Shadows

Shadows Added by Proposed Project

North

Figure No. 31



Shadow Patterns June 21

Existing Shadows

Shadows Added by Proposed Project

Figure No. 32

'The nearest grocery, drug store, and similar services would be several blocks away at YBC. Medical and dental services, laundries and cleaners, recreation and entertainment, and similar types of personal services wouldn't be available in the immediate area. To market housing units successfully, the project sponsor would need to provide space within the project for such activities and services.'

"The way I look at the map, this isn't several blocks away. It is a couple blocks away. YBC Gardens, at least if the plan is what it's been supposed to be, will have a plethora of food, both selling -- both fast food, nice restaurants, besides fast foods, sit-down restaurants. It will have markets. It's planned to have office buildings where presumably if there's a need there could be medical offices. There are going to be so many things down there. I don't think we should have on page 135 and 131 such a bleak picture of -- and at the very least, there should be a paragraph talking about what's proposed. Because that proposal is pretty far along. And I think it's bad to ignore it."

RESPONSE

On page 65, footnote 3 of the EIR, the Department's standard formula for calculating housing demand is given. The estimated 635 housing units in based on 722,000 square feet of office space, divided by 250 square feet (estimated number of square feet per employee). The assumption is made by the Department that 40% of all employees will desire to live in San Francisco and 1.8 working adults occupy each unit.

The 101 Montgomery EIR estimated that 15 to 30% of the people who would become employed in San Francisco as a result of a highrise office building would move into the City as a result of getting their new jobs. The derivation of this estimate is explained and discussed on pages 300-309 of that EIR. The percentage range is based on different assumption on the estimates of housing impact and represents the 2 extremes regarding the likely number of new employees moving to San Francisco. Nevertheless, the result of the Planning Department formula (635 units) is very close to the high end of the Recht Hausrath result (643 units).

Footnote 2, page 64 of the EIR, has been clarified to read:

"[2]Based on 1 employee per 250 square feet of office space, and on 1 employee per 350 square feet of commercial space."

Footnote 4, page 64 of the EIR, has been included as part of footnote 3 on page 65 and clarified to read:

> "[4]Recht Hausrath and Associates ("Commercial Space, Employment, Housing and office Fiscal Factors" for EIP Corporation, August 1981) have estimated that the number of office employees who move into San Francisco as a result of a project would approximately equal 15 to 30% of the new jobs created by the project. This would mean a demand of 310 to 620 units, assuming that 1.4 working adults in downtown San Francisco occupy each unit."

Residentially oriented retail uses in the YBC Redevelopment Area area and elsewhere in the vicinity are discussed on page 128. This discussion indicates the location of the YBC retail facilities in definite terms. The term "several" on page 131 is a reflection of the project sponsor's point of view in explaining the reasons for rejecting the alternative. The City Planning Commission could consider approving this alternative if it were found to be a more appropriate use and caused fewer environmental effects. The project sponsor still believes that to market housing units successfully, residentially oriented retail uses must be provided on-site similar to those facilities associated with the Golden Gateway. However, such retail uses may not be supported by just on-site housing, but would require additional housing in the area which would be limited for the immediate future.

COMMENT

Chairman Rosenblatt

> "Several places in the draft EIR, there is a statement that the project sponsor does not wish to -- does not find it feasible to do anything in the way of what is generally called a housing mitigation measures... Is that still the case?
>
> "On page 114, there's a discussion of the housing mitigation by the formation of what I will call a blue ribbon committee. That seems to me to be an unnecessary and inapplicable mitigation measure. That process is already under way by an expert panel funded by a grant from the San Francisco Foundation. That's going to happen, anyway."

David Jones

> "This project EIR stated that the mitigation for housing was not possible for economic reasons. In order for you to have a substantial documentation of whether

this is true or not, the EIR would have to show some data on why it was not economically feasible. This EIR has no documentation from which anyone can judge in any sense whether there is or is not an economic reason for not doing mitigation.

"The EIR does not mention the rent that is anticipated, the operating costs, the borrowing rates, the insurances costs, the cleaning costs, or any profits that may be realized so that anybody can figure out how much money is made to determine whether mitigation measures are economically feasible or not."

"I would like this EIR and future EIRs to show over a 40-year cycle the building, what are the revenues and what are the costs, the borrowing costs, the insurance costs, the cleaning costs and operating costs and taxes, so -- and tabulate this in an understandable manner so we can see how much money is being realized so we can determine whether the mitigation measures which are economic in nature, and which they say they can or cannot do, are valid."

Michael Visconti, ABAG, letter of 4 January 1982

"ABAG's city council members and county supervisors support expansion of the housing supply in areas easily accessible to major job centers to lessen the imbalance between jobs and housing, reduce transportation commute loads and impacts on air quality and alleviate upward pressures on housing prices in the Bay Area. They urge that cities with job growth in excess of past housing growth accept responsibility for providing more housing growth accept responsibility for providing more housing at price ranges and levels affordable to workers coming to these new jobs.

"This project will result in a net increase of 3,000 jobs on-site, which, according to Department of City Planning estimates, will result in a demand for at least 635 dwelling units (EIR, page 65). The EIR also states that vacancy rates are approximately 1-3% and the average market value of a house is $140,000 (pp. 37, 38). Finally, the EIR estimates that only 15% of all downtown worker households living outside the City could afford a house costing $150,000 or more (page 64).

"Given the above, staff strongly urges that the project sponsor be required to adopt the suggested mitigation measure on page 113, to provide housing units in sufficient quantity, on or off-site, to mitigate the demand created by this project. Staff notes that according to EIR EE80.349 (November 1981), the sponsor of the Spear and Main Street Office Building plans to build or rehabilitate housing units in the area according to the demand created by this particular project (page 113). The sponsor of the project under discussion should be required to do no less, especially in light of the magnitude of the demand created by this development."

RESPONSE

The last 2 sentences of paragraph 3 of page 113 of the EIR have been replaced with the following:

"Case studies of recent residential projects indicate that the average unit size is about 800 square feet, and the development cost for a unit is $189 per square foot for highrises and $131 per square foot for midrises. If an average unit is sold at a 15% mortgage interest according to HUD's median income figures for San Francisco, the affordable purchase price for a moderate income household of three persons is $54,100. The affordable purchase price for a low income household of three would be $36,100. As the unit costs $151,200 (highrise) to $104,800 (midrise) to build, selling it at affordable prices under an inclusionary program suggests that it would be sold for $50,700 to $115,100 below cost, depending on the type of project and the income of the household. If the income figures remain relatively stable, and the interest rate rises above 15%, the affordable price would be even lower, and the gap between development cost and affordable price would be large[1]."

The following paragraph replaces the last paragraph of Section V.B., page 114 of the EIR.

"Pursuant to its efforts to mitigate the housing impacts of the project, the project sponsor has negotiated with the San Francisco Redevelopment Agency to fund a

portion of the financial gap in a Section 8 Housing Project in the Hunters Point area known as the Cypress Grove Cooperative. The project sponsor contemplates funding up to $3.5 million dollars and is awaiting funding approval from HUD."

Information detailing project costs and revenues to the project sponsor is proprietary information and is not available for publication.

COMMENT

Commissioner Bierman

"Pages 64 and 65, I couldn't find very good discussion of the kinds of employees, classifications of employees who will be in the building and who will reside in the city, nor their predicted salaries, nor their housing needs."

John Elberling, letter dated 7 December 1981

"At various locations in the Second and Folsom and Spear and Main Draft EIR's cumulative San Francisco office development from 1980-85 is estimated at 1.25 million feet per year, or 6.25 million total. In view of the information on said Table C-1 showing 13,659,000 feet completed, under construction, or approved, at 2.731 million over five years, this estimate is clearly in error by an order of magnitude and should be corrected in all instances of use."

"The Second and Folsom and Spear and Main EIR's need to include the information presented in tables C-1 and C-2 of the Montgomery-Washington EIR, pages 200 and 201, as expanded by item a. above.

"Any unmet housing demand identified in the Impacts section and not specifically mitigated as a requirement of project approval and development (see immediately above) must be specifically identified as unavoidable negative impacts on, respectively, overall housing demand and jobs/housing imbalance, rental housing demand/supply imbalance, 'affordable' housing demand/supply imbalance by household income levels, and displacement of existing low/moderate income households. Such unavoidable adverse impacts must be stated not only for San Francisco but all Bay Area counties, separately."

"The Setting sections of the Second and Folsom and Spear and Main EIR's should be as extensive in scope as the 5 Fremont Center FEIR, including sub-sections on regional housing supply/demand/trends, and jobs/housing imbalance.

"The amount of housing produced, net, by size (vs. household size), by type (condominium-sale or rental), and by price range needs to be stated for several recent years, and for each of the Bay Area counties.

"Whether located in the Setting or Impact sections, the amount of 'secondary' permanent employment, and its corresponding estimate of housing demand thereby generated, needs to be identified in the EIR's of all three projects (Marathon, 101 Montgomery and Washington/Montgomery as well as the proposed project). Moreover, this demand should be given estimated allocations to other Bay Area counties as well as San Francisco; it cannot be assumed that the distribution of such 'secondary' employees' residences will be the same as for the project on-site employees.

"The discussion of housing impacts in the Second and Folsom and Spear and Main DEIR's must be expanded in scope and analysis to one comparable with the discussion contained in the Montgomery-Washington EIR. All three EIR's need to include, as noted above, discussion of the impacts of 'secondary' project employment as well on housing demand in all Bay counties.

"All housing impact as noted above, attributable to the project's 'secondary' employment impact, and not the subject of any specific mitigation measures, must necessarily be identified as unavoidable adverse impacts also on a county-by-county basis and in the categories noted above."

"a. Mitigation equivalent to item No. 10, page 114, included in the Montgomery-Washington DEIR needs to be simply and clearly stated in the Second and Folsom and Spear and Main DEIR's.

"b. Comparable mitigations for housing impacts, on the same basis of computation as said No. 10, need to be stated for that portion of housing demand generated by on-site employees in other Bay Area counties besides San Francisco.

"c. Specific additional mitigation for that segment of the housing demand generated by on-site employees for rental housing, as identified in the Impacts section as per above, needs to be stated, as well as specific mitigation (with partial overlap) for that portion of such demand in the low/moderate/middle-income household affordable segments of the housing market which cannot be acccommodated by unsubsidized housing production.

"d. Proposals for 'studies' and 'best efforts' and any similar non-binding mitigation measures are not valid mitigations of any sort. The studies are complete (cf: Citizens Housing Task Force reports), and an unsecured promise has no legal substance (see CEQA 15032.5).

"Using the information provided in the Setting section, the impact of the project's on-site and 'secondary' employment on the housing demand of all Bay Counties needs to be stated by price segments of the housing market, and by type (rental or condo-sale) to the extent possible, E.g., x% can afford housing in range \$a-\$b; y% in range \$c-\$d, etc., using accepted U.S. DHUD standards of low/moderate/middle/upper income households to identify at least four such ranges. Those households whose income is insufficient to afford unsubsidized for-sale housing should be identified as the percentage of on-site and 'secondary' demand impact on the rental housing markets of the respective counties."

RESPONSE

Table C-I referred to in the first comment is on page 200 of the Montgomery and Washington Street Building Draft EIR 81.104 E, Major Office Buildings Constructed in

San Francisco as of 1 October 1981. Based on records at the Department of City Planning, the Table has been updated to 1 November 1981 (Table 4) and is added to this EIR as page A-57a. Table 4 shows that for the 5-year period ending in 1984, 13,135,000 gross square feet was constructed, is under construction or has been approved for construction in San Francisco. Assuming that office projects approved now will not be completed by 1984, the data indicate annual office space production between 1980-1984 will average 2.0 million square feet.

Additional data have been added to the EIR Appendix, as Table 6, page A-57c, which indicates that through 1985 the cumulative housing demand from downtown office development would be under 16,000 units. Data are not available to accurately estimate the current overall housing demand of San Francisco. Demand is affected by a combination of changes in income levels, housing prices, interest rates, housing prices in alternative locations, and consumers' tastes and preferences. Projections suggest that if growth of San Francisco housing development continues at recent rates, the cumulative demand will not be met. It is not possible within the scope of the EIR to assess where new housing might be constructed in San Francisco.

The following paragraph will be added to page 65 after the fourth paragraph:

> "Table 6, page A-57c in the Appendix, indicates the direct housing impacts of the project on the 4 areas within the region, as well as the cumulative impacts of downtown office development. For San Francisco the projected housing demand exceeds projected growth by a factor of nearly 3. The overall jobs/housing imbalance in San Francisco, which is the ratio of the number of jobs to the number of housing units, is estimated to be about 1.65 and ABAG projects an increase to 1.95 by the year 2000.[1]

The following sentence will be added to the last paragraph before E. Transportation, page 65.

---

[1] Association of Bay Area Governments, Population Employment Housing Projection 1980-2000, Projections 79, pages 11-7, 10."

TABLE 4

MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO
as of NOVEMBER 1, 1981 in gross square feet

Year	Ttl.Gross Sq. Ft. Cmpltd.	5-Year Total	5-Year Annual Average	Cumulative Total All Office Blds.	All Down-town Office Buildings
Pre-1960		(Net)(3)	(Net)(3)	28,145,000(1)	24,175,000(2)
1960	1,183,000				
1961	270,000				
1962	---				
1963	---				
1964	1,413,000				
		2,866,000	573,200		
1960-1964		(2,580,000)	(516,000)	30,725,000	26,754,000(3)
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
1965-1969		(7,541,000)	(1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	---				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
1970-1974		(7,753,000)	(1,550,000)	46,019,000	42,048,000
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	---				
1979	2,532,000				
		8,157,000	1,631,400		
1975-1979		(7,341,000)	(1,468,000)	53,360,000	49,389,000
1980	1,284,000				
1981/82	3,138,000			57,340,000	53,369,000
Under Construction 83/84	5,600,000	10,022,000	2,004,000		
1980-1984		(9,020,000)	(1,804,000)	62,380,000	58,409,000
Approved Projects	3,113,000			65,182,000	61,211,000

Source: Department of City Planning records

(1) Source: S.F. Downtown Zoning Study - Working Paper No.1, January 1966, Appendix, Table 1, Part 1. For pre 1965, includes the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes 1/3 of mixed use retail/ office. For post 1964, includes the entire city.

(2) Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the 1/66 report. For post 1964, the entire area east of Franklin is included.

(3) Net equals 90% of (gross). Net new space is added at an increase factor of 90% since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building.

TABLE 6

PROJECTED EFFECTS OF DOWNTOWN OFFICE DEVELOPMENT ON REGIONAL HOUSING MARKETS

Housing Market	Residency of San Francisco Office Employees[1]	Housing Units Demanded[2]	Household Cumulative Demand[3] 1981-1985	Net Housing Stock[4] 1981-1985	Project Demand as % of Growth 1981-1985
San Francisco	40%	635	10,500	6,000-8,000	7.9 to 10.5
North Bay (Marin and Sonoma Cos.)	12%	285	4,740	16,500-25,000	1.1 to 1.7
Peninsula (San Mateo and Santa Clara Cos.)	18%	395	6,560	52,000-68,000	0.6 to 0.7
East Bay (Alameda and Contra Costa Cos.)	30%	660	11,000	51,000-62,000	1.1 to 1.3
TOTAL	100%	1,975	32,800	125,500-163,000	1.2 to 1.6

[1] Based on EIR data presented in Table 4, page 40 of the present study.

[2] Project workforce of 2,900 and a ratio of 1.8 workers per household for San Francisco, 1.2 for North Bay, and 1.3 for the Peninsula and the East Bay. Source: Employment Development Department, Annual Planning Information: San Francisco/Oakland. May 1981.

[3] Cumulative housing demand calculated from quantities of office space shown in Table 4 as completed in 1981/82 (3,138,000 sq. ft.), under construction in 1983/84 (5,600,000 sq. ft.) or approved (3,113,000 sq. ft.).

[4] Based on straight-line projections of levels of building permit activity reflected in ABAG, Housing Activity Report, No. 3, May 1981. High ranges reflect annual averages over the period 1976 - 1980. Low ranges are extrapolated from 1980 average only to indicate possible continued reductions in housing production.

"The secondary employment generated by the project would create demand for an additional 659 housing units throughout the Bay Area."

It is not appropriate in the EIR to identify the housing impacts as unavoidable negative impacts since mitigations have been proposed. The EIR does not, by law, establish conditions of project approval. Conditions are established by the City Planning Commission which is required to make appropriate findings regarding whether impacts would be mitigated if the Commission determines that project approval is appropriate.

The second sentence of the fifth paragraph on page 64 is replaced with the following:

"Forty percent or about 1,160 of the new office employees generated by the proposed Second and Folsom office building would be expected to move to San Francisco."

The last paragraph on page 64 is deleted. The following paragraphs are added after the second paragraph on page 65.

"In order to estimate their ability to afford housing in San Francisco, it is assumed that the 1,160 employees would have the same income distribution as all downtown office workers. Table 5, page A-57b in the Appendix suggests that under these assumptions, about 24-26%, or 275-300 employees would be deterred from moving to San Francisco because they would be unable to afford the median rent for even a studio apartment.

"In reality, the pattern of household movement relating to downtown employment is very complex and would probably not exactly follow the average income distribution as assumed. For example, many jobs on the lower end of the income scale would be held by second wage earners within the household and such households would more likely locate for convenience to the chief wage earner's job. This effect would tend to raise the actual income distribution of the project work force moving to San Francisco. Moreover, not all lower income employees would be unable to find affordable housing. The median rent statistic implies that 50% of studio apartments are rented below $440 monthly. It is evident, however, that it would be much easier for the higher income employees to make the move."

TABLE 5

Estimated Number of Office Worker Households Able To Afford Various Monthly Housing Costs for the Second and Folsom Office Building (Based on 1981 Data)

Housing Type (Rental)	Median Monthly Cost	Number of[1] Second/Folsom Employees	% Able to[2] Afford Cost
Studio Apartment	$ 440	870-890	75-77
One Bedroom	500	810-840	70-73
Two Bedroom	560	760-790	66-69
Three or More Bedrooms	590	760-790	66-69
1980 Census Median Rent	310	1160	100
(Purchase)			
New Single Family	$1,570	150-185	13-16
Existing Single Family	1,497	185-210	16-18
Condominium	1,140	255-280	22-24
1980 Census Owner-Occupied Dwelling	1,215	230-255	20-22

[1] The numbers of employees presented in the table are based on the assumption that 40% of the project employees would move to San Francisco. Thus, the percentages are applied to a total of 1,160 employees rather than 2,900. It is further assumed that these employees would have an income distribution similar to all downtown office workers as reported in the 1974 SPUR study.

[2] The table assumes that all employees are part of households and does not reflect availability of housing, just the affordability. Households are assumed to spend 30% of income on housing.

The following two paragraphs are added to the Population, Employment and Housing section after the sixth paragraph on page 65 as follows:

"Downtown office development is one of a variety of factors which affect the cost and availability of housing in San Francisco. The conditions in the regional housing market also affect prices in the City. San Francisco is one of several areas in the Bay Area region where housing demand is greater than the supply. ABAG reports that 'the core of the region' - San Francisco, North Alameda, Hayward and South Marin - issues permits an average of 50% below the ABAG annual goal for their area."[1] Job growth throughout the region coupled with lagging housing in a broad area, high interest rates and inflation create added pressures on housing prices in San Francisco.[2]

"The limited information available on housing production in the Bay Area counties suggests that most subregional markets have been depressed in recent years. Regionally, single family permits, as shown in Table 8, page 57e in the Appendix, declined in 1979 and 1980. Alameda, Contra Costa, San Francisco, San Mateo and Sonoma County permit issuances rose from 1978 to 1979, but then declined in 1980. A similar pattern is exhibited in Table 9, page 57f in the Appendix for multi-family permits, with the exception that condominium permits increased steadily through 1980. Rental permits in Napa and Santa Clara counties also rose in 1980."

"[1]ABAG, San Francisco Bay Area Housing Activity Report, No. 3, May 1981, page 49. The housing goals have not yet been finalized, however. The ABAG executive board is scheduled to approve the goals by May 30, 1982, which will supercede those which are discussed in the ABAG report. Dan Lopez, Chief of Housing Program, ABAG, telephone conversation, 2 February 1982."

[2]This is a summary of regional and San Francisco housing characteristics included in the Five Fremont, Final EIR EE80.68, certified on 12 March 1981, page 41 and 42, and is hereby incorporated by reference into this EIR."

Employment multipliers have been developed for a number of recent downtown office building EIRs based upon a regional, Bay Area input-output (I-O) model. This model describes the structure of purchase and sales transactions which occur among the various economic sectors on an area-wide level. The model does not describe how transactions occur among sub-areas within the region. Therefore, the employment multipliers based on

TABLE 8

SINGLE FAMILY PERMITS ISSUED
BY COUNTY FOR SELECTED YEARS

	1976	1977	1978	1979	1980
Alameda	2,971	3,453	4,052	4,129	2,743
Contra Costa	6,122	9,059	5,193	5,557	4,566
Marin	857	894	1,154	694	751
Napa	546	658	627	337	320
San Francisco	312	369	227	239	190
San Mateo	1,813	2,193	1,185	1,685	1,201
Santa Clara	9,318	8,446	6,999	6,098	5,071
Solano	3,032	4,707	3,483	2,773	1,724
Sonoma	3,163	3,627	2,456	3,069	1,779
Region Total	28,134	33,406	25,376	24,581	18,345

Source: ABAG San Francisco Bay Area Housing Activity Report, No. 3, May 1981, pages 20-24.

TABLE 9

MULTI-FAMILY PERMITS ISSUED
BY COUNTY FOR SELECTED YEARS

	1976		1977		1978		1979		1980	
	Rentals	Condos	Rentals	Condos	Rentals	Condos	Rentals	Condos	Rentals	Condos
Alameda	803	102	1,237	20	1,985	480	1,496	718	1,038	1,022
Contra Costa	1,026	0	1,325	20	1,415	0	387	614	240	
Marin	232	156	336	227	679	118	151	25	92	87
Napa	170	82	306	108	248	73	35	0	110	0
San Francisco	1,310	0	1,167	0	1,818	0	1,394	200	549	463
San Mateo	820	252	1,449	197	1,130	343	697	185	424	682
Santa Clara	3,695	138	4,104	377	2,807	214	1,382	556	2,627	327
Solano	142	0	652	59	701	137	684	61	490	64
Sonoma	601	0	1,168	77	948	0	890	109	280	303
Region Total	8,799	730	11,744	1,085	11,731	1,365	7,116	2,242	6,224	3,188

Source: ABAG, San Francisco Bay Area Housing Activity Report, No.. 3, May 1981, pages 20-24.

the regional I-O model do not contain any information about how the secondary impacts would be distributed among the Bay Area counties. In the absence of this specific information, secondary impacts on overall housing demand, the jobs/housing imbalance, rental housing, affordability of housing, parking, and transit and traffic cannot be addressed on a county-by-county basis.

The following paragraph has been added as the last paragraph on page 65 of the EIR to indicate overall secondary impacts:

> "Secondary employment would be generated through the multiplier effect. Assuming that the new permanent jobs are in the finance, insurance, and real estate (FIRE) sector, about 3,000 additional jobs in other sectors of the Bay Area Economy would result from the growth of FIRE business.[1] About 37%, or 1,110 of these jobs, would be blue collar jobs. The total number of Bay Area jobs that would be supported by the growth in permanent downtown employment due to the project would be 6,950."

The project would generate a demand for 635 dwelling units, as noted on page 65 of the EIR. The difficulty of accurately assessing project housing impacts in specific communities and the inability of the City of San Francisco to enforce measures outside the City make it inappropriate to impose mitigation measures for very specific localities in the Bay Area.

Legally binding commitments need not be made in the text of the EIR. The Planning Commission resolution of approval on the project would be the appropriate document in which to stipulate legally binding commitments, should the Commission decide to approve the project.

The suggested methodology for describing regional housing rental and purchase affordability for project employees is inconsistent with the approach undertaken generally in the EIR for anticipated San Francisco residents. The likely income distribution for the project work force developed in the EIR is a more relevant basis for the analysis than HUD income criteria. The federal criteria are based on SMSA averages for the entire work force. Thus, they reflect neither the proper spectrum of occupations, nor the fact that the San Francisco office work force will likely exhibit a special income distribution due to the greater proportion of headquarters operations located in the downtown.

The following paragraph will be added after the fifth paragraph of the Population, Employment and Housing section, page 65 in the EIR:

"Table 7, page A-57d in the Appendix indicates what proportion of those project employees who are expected to live outside San Francisco could afford the cost of the average priced home in their respective locations. The employees in each of the areas are assumed to have the same income distribution as all downtown office workers. The percentage of project employees able to afford average priced housing ranges from a low 14% on the Peninsula to a high of 23% in the East Bay. Rental housing is generally within financial range for employees, at least for smaller units. Three-bedroom apartments would be affordable for 53% to 79% of the households."

TABLE 7

Estimated Number of Second and Folsom Office Building Worker Households Residing Outside San Francisco Able to Afford Average Priced Housing

	Average Housing Price[1]	Monthly Housing Cost[2]	Total Employees	Percent Able to afford Monthly Cost[3]	Number Able to Afford Monthly Cost
East Bay	$115,025	$1,160	900	23%	207
North Bay	154,457	1,560	360	16	58
Peninsula	160,103	1,620	540	14	86

Source: Environmental Impact Planning Corporation

[1] Real Estate Research Council of Northern California, Real Estate Report, April 1981, p. 4. 1980 Census data on housing prices are available; however , they cannot be readily aggregated into the subregions under analysis in the present study.

[2] Assumes 20% downpayment with a 30-year mortgage at a fixed interest rate of 15%.

[3] The Table assumes that all employees are part of households and does not reflect availability of housing, just the affordability. Households are assumed to spend 30% of income on housing.

E. TRANSPORTATION

1. Transit

COMMENT

Sue Hestor

"And when it comes to Muni, people are making projections that persons in this part of the town will walk 2,000 feet to get Muni service, basically in all kinds of weather. I used to work at Third and Bryant. There is a real disincentive on those long walks south of Market Street to take transit and walk from Market Street or walk from Mission Street. And depending on what part of the city you live in, your transit lines may go down Market or they may go down Mission Street."

"There is no transit system to cope with Folsom Street, Harrison Street, Bryant. People are pretty much on their own, and it is pretty scary to walk down there late at night, in part because the freeway is such a big, bleak overhang, and it does affect people's perception of safety to have that enormous structure, and taking up that very substantial amount of space.

"And people that may feel safe taking transit or may feel comfortable taking transit, apart from safety, who work south of Market, may not make the same decisions to take transit south of Market. Especially if they live -- or if they work in the southern part of that block. And I think what you need to analyze is this presumption that all you need to do is patch into the Market Street network and the Mission Street network and the other north of Market Street networks a realistic assessment of how to provide transit. I don't think it is for this site. And I specifically don't think it is because there's so many other projects coming through.

"And I think one of the things you need to analyze is how much it would cost for the City to provide a transit system with feeder lines that really go south of Market Street. You don't have that in here. You have a presumption that people will walk 2,000 feet. And I don't think that's a good presumption in that area. These are long bleak blocks."

"On page 73 it says it appears that the Muni system capacity will be increased 10 or 15 percent. And can't Muni estimate better 'than it appears that it will'? And I don't understand in connection with Muni Metro, because it's three blocks from Muni Metro, I think, maybe not, if you consider Transbay Terminal. But I don't -- and are articulated buses or coaches going to serve this building area? I'm not aware that they are. Can we get a clarification as to whether they are because it doesn't make any sense to put something in here if it's not going to serve the area of this project."

Chairman Rosenblatt

"On page 73, the discussion about Muni's system capacity to increase by 10 to 15 percent. Again, the question of is that going to be effective in this site area."

"...what are the assumptions about funding which will be necessary to provide the 10- to 15-percent increase. If the assumptions behind that are based on estimates of sources, the probability of which has changed since Muni made these estimates, then we should get some sense of whether that's still realistic, and if not, what the impacts would be without it, or without some alternative source of funding."

RESPONSE

On page 73, paragraph 4, of the EIR, the text is changed as follows:

"The Muni 5-Year Plan is updated yearly. The 1981-1986 plan projects a 10-15% increase in the system capacity by 1986.[2] This increase would reflect added capacity in the Muni Metro light-rail service, and the replacement of existing buses with articulated coaches. This capacity increase would relieve the projected load factors; specific benefits, however, would depend upon a more detailed improvement program with capacity increases cited for each route. It is not known at this time how this plan might affect the South of Market Area. The 1981-1986 plan was based upon the extensive use of federal funds. Muni now anticipates that federal monies may be curtailed by 1984-1985 and other sources of funds must be sought.[3] These could include an increase in fares, special assessment districts, development fees, bonds, and/or municipal/state funds. If such funds are not obtained, projected Muni impacts would not be alleviated.

"If the availability of monies is reduced, the improvement program would be altered and Muni impacts could be increased. Even with an across the board 10-15% capacity increase, 14 of the 38 lines listed in Table 11 would have load factors approaching or exceeding 1.00.

"Twenty-two of the 34 lines within 2,000 feet of the project site operate in the Market and Mission corridors. Because of the distances and safety concerns associated with walking to/from these lines, the project's general transit accessibility could be impaired. The Muni lines adjacent to the project site could be used to gain access to Mission and Market Streets, (see Figure 23, page 42 of the EIR), although the reduced convenience of transit could cause project employees and visitors (and employees/visitors of other projects south of Market) to shift to automobile travel. This modal shift would intensify the traffic and parking impacts outlined in Sections E(2) and E(4) of this EIR.

"If an effort were made to increase Muni service adjacent to the project site, additional capital and operating costs would accrue to the City. The magnitude of these costs would depend upon the potential for line extensions/revisions vs. development of new lines. Muni is presently considering several trunk line improvements in relation to the I-280 concept program which would enhance service in the vicinity of the project. These include the extension of Muni Metro to the Southern Pacific Depot (estimated cost $45 million) and an LRV service on the E-line from Fort Mason to the S.P. Depot (estimated cost $12 million).[1] These improvements would help facilitate extension of local transit service to the area of the project site.

"[1]Department of Transportation, letter dated 29 May 1981, "SF-280 I-280 Transfer Concept Program."

Footnote 2, page 73, is changed as follows:

"[2]San Francisco Municipal Railway, <u>1981-86 Muni 5-Year Plan</u>, 15 May 1981, pages 2-249 to 2-252."

"[3]Bruce Bernhard, Public Utilities Commission, SPUR presentation, 21 January 1982."

COMMENT

<u>Commissioner Bierman</u>

"And I would, again, say that the way you tell what these conditions are is to get a photograph or a picture at peak hour, and I would prefer peak of the peak, whatever that means, a 15-minute period of the grossest discomfort for those who are the working people of the world."

RESPONSE

A photograph of peak hour conditions is shown as Figure 25A in the Final EIR, 135 Main, EE81.61, certified on 25 March 1982, and is hereby incorporated by reference into this EIR.

COMMENT

Chairman Rosenblatt

"On page 75, middle paragraph, because load factor definitions change from system to system, could we have a repeat of how BART defines their load factor in the paragraph about BART."

RESPONSE

On page 75, paragraph 2, line 4, the text has been changed to read:

"...certain peak trains. (BART load factors are calculated on the basis of passengers divided by available seats.) BART District policy calls for a maximum load factor averaging 1.3 for all trains during the peak hour.[1] BART's short-term (5-year) improvement program calls for an ..."

COMMENT

Chairman Rosenblatt

"On page 100, fourth paragraph, a discussion of Muni's cost. Could we also, if appropriate, show . . . the analysis of what the marginal cost is for this area using the new methodology provided by the Public Utilities Commission in their data, with respect to the Transportation Assessment District whether there is a distinct difference between city-wide service and cost as opposed to the downtown?

"I don't know whether this site is within the proposed boundaries or not, whether it would be subject to that different methodology or not."

---

[1] John Stamas, BART Planning Staff, telephone conversation, 23 February 1982.

RESPONSE[1]

The methodology developed for the analysis of the proposed Transportation Assessment District is intended to establish the extent to which a "special" level of Muni service (or "benefit") is provided to the downtown over and above the level of service provided to the balance of the City. The concern of the Public Utilities Commission in generating the new data is to estimate the average cost of Muni service currently provided in the downtown district. The methodology is not intended to calculate the marginal cost that new development would impose on Muni services. For this purpose, the methodology employed in the EIR represents the most current approach in estimating marginal costs.

The reason for concentrating on average costs in relation to the proposed Assessment District is that the establishment or expansion of this District can only occur in areas where a special level of service is already provided. Given this rationale, the proposed District boundaries cannot be modified to include areas where higher levels of services are simply speculated as a result of proposed development instead of definitely programmed. Certain other legal restrictions in the cost assessments emphasize this distinction. For example, only the cost of replacing worn-out equipment can be assessed to this District. New buses, equipment or facilities intended to serve new developments cannot be purchased from Assessment District revenues. Estimates of costs appropriate to the proposed Assessment District are in any case presently incomplete due to the data limitations related to equipment and feeder-line costs.

2. Transit Fee

COMMENT

Sue Hestor

> "You have to require as mitigation the requirement that they buy into the transit fee. You have the ability. I mean you can just tell people they have to buy into it. You don't have to let people be bound by the Walter Shorenstein suit.
>
> "I mean the litigation is going to tie things up. And that means that all of your mitigation measures for transit and all of your mitigation measures for air pollution don't mean anything, because you're not going to require them to do anything until things get revolved in the courts, which may be many years down the pike. And you have the ability to ask them to do it."

---

[1]Bruce Bernhard, Manager, Analysis Unit, PUC, telephone conversation 20 January 1982.

Chairman Rosenblatt

"On page 117, it talks about the transportation mitigation and contribution to the fund. And it says the funding mechanism 'if successfully implemented by the City.'

"Now, I think I understand what is trying to be said there. But I think that's a very unfortunate choice of words. The use of the word "successfully" connotes combat. One side is for it, one side is against it, and the party involved is the developer versus the City. Hopefully they are part of the solution and part of the City just as much as everybody else is."

RESPONSE

Paragraph 1, page 117 of the EIR, the text has been changed as follows:

"The project sponsor would contribute to a fund for maintaining and augmenting transportation service, in an amount proportionate to the demand created by the project, through an equitable funding mechanism, such as an assessment district implemented by the City, which would meet the peak demand generated by cumulative development in the downtown area."

3. Cumulative Transit

COMMENT

Chairman Rosenblatt

"The final comment I have on transportation, which may come at that point, is the interplay between the different modes. As we approach capacity or exceed in capacity from one on the other, they're going to have stress on other modes. And we assume as we discuss transportation we talk about each piece separately. Parking, streets, transit, et cetera. When stresses grow in one of them, there will be a likely modal shift. Look at the whole thing as a job of getting people to and from this site. And if it's all approaching capacity, then what? That kind of a concept or exceeding capacity of the various systems, then what?"

Commissioner Bierman

"Page 74, the tables about transportation. I cannot believe that table. I am only speaking of one part of it, but because that part doesn't seem real to me, I have trouble with the whole table. It says that the (N) car peak hour existing capacity is .85, and I am presuming this is at peak hour outbound direction. I ride that car. Now, I am accepting the fact that I would stand for a hundred fifty percent capacity.

"Every time I have ridden the Muni Metro from 4:30 to a quarter of 5:00 on, it is nose to nose, everything else to everything else, elbow to elbow at best. Jammed. And it cannot be .85, which means just the seats. There's something wrong. And so I would presume there's a real possibility the table is wrong. And we need to really correct that."

John Elberling

"On the transit sections, both the setting and the impact as it applies, we have the same problem of accumulative impact analysis not being adequate, particularly for the Muni, but also for BART, AC, SamTrans and Golden Gate Transit Districts.

"The basic problem is that, as I read it, (cumulative) impacts are only analyzed for projects that have permits approved as of December, 1980. Certainly the consultant can now crank in projects approved this year and projects in the permit process at this time for the final EIR and include those in (cumulative) impact analysis, and of course, since there are so many, of course it is going to have a sizable effect on the analysis.

"As well, the table that analyzes the project's impacts on Muni specifically fails to have a column that reflects any cumulative impact figures. It just adds this project's impact only. And that certainly has to be corrected."

RESPONSE

On page 83 of the EIR, Item 7, Summary of Transportation Impacts is added as follows:

"7. Summary of Transportation Impacts

"As outlined in the foregoing sections, the downtown office projects would have cumulative impacts on the overall transportation system. Those projects approved through October 1981 would add 30-35% to downtown travel during the p.m. peak hour. An additional 30% increase would result from those office projects proposed through October, 1981.

"The freeways, freeway ramps and major streets accessing the freeways would experience increases in traffic congestion. Vehicle queues would increase and peak 1 hour flow conditions would probably extend throughout the 3-6 p.m. period.

"All of the transit carriers would be at capacity. Passenger loads would be particularly heavy on Muni, BART, Golden Gate and SamTrans. Peak hour buses and trains would be extremely crowded with uncomfortable conditions for all passengers. Vehicles would probably be crowded to the extent that buses would pass up waiting passengers and trains would be unable to admit passengers waiting at platforms. The peak 1 hour congestion would be extended to 2-3 hours.

"Parking facilities would be directly affected by cumulative growth. Parking impacts would include inconvenience for downtown employees and visitors forced to park farther from their destinations. A secondary effect could be the increased parking and traffic in neighborhoods removed from the downtown area. Some motorists might seek parking (both curb and off-street) in peripheral areas and ride Muni to/from downtown. This parking demand would remove spaces from local residences/businesses. It is also possible that parking inconvenience could cause some commuters and/or visitors to shift to an alternate transportation mode for their entire trip. Some persons might elect to join carpools/van pools or might use public transit.

"In summary, the transportation analysis suggests that cumulative downtown development would have major consequences. The magnitude of the impacts would require significant increases in the system capacity and/or changes in travel habits (i.e., van pool usage, work hour changes, etc.) or the duration of the commute period would increase."

RESPONSE

The following text, table, and footnote changes have been made in the EIR:

On page 66, paragraph 3, second sentence, the underlined material will be added:

"In addition, a preliminary review of other projects approved from November 1980[5] through <u>October 1981</u> indicates about 7,800 additional person trips."

On page 66, footnote 5, the following material is added:

"[5]Peak hour trip generation data were compiled for the following projects approved from November 1980 through October 1981:

- 444 Market (Shaklee)
- Pacific III
- Levi's Plaza (not fully occupied)
- 101 California Street
- Federal Reserve Bank
- 1 Montgomery (Crocker Tower)
- 1 Sansome Street
- 150 Spear Street
- Embarcadero 4
- Daon Building (Battery and Sansome)
- Pacific Lumber Building (Washington and Sansome)
- 456 Montgomery Street
- 315 Howard Street
- Pacific Gateway
- 10 United Nations Plaza
- 1170 - 1172 Market Street
- 750 Battery Street
- 550 Kearny Street
- Ramada Hotel
- Holiday Inn
- 5 Fremont Center
- 101 Montgomery
- China Basin
- 95 Hawthorne
- 25 Jessie
- 101 Mission
- 1155 Market
- Hilton II Tower
- Holiday Inn (Civic Center)"

On page 68, paragraph 1 the underlined material is added:

"The Second and Folsom project would amount to about 6-7% of the cumulative peak hour trip generation of the projects approved through <u>October 1981</u>.[1]"

On page 69, Table 7:

"TABLE 7

Project and Cumulative Trip Generation During PM Peak Hour[1]

(For Projects Approved Through October 1981)

Mode and Distribution	Project	Other Development	Total
Auto	785	12,010	12,795
Muni	630	9,470	10,100
BART	330	4,730	5,060
AC	180	2,530	2,710
SAMTRANS	35	450	485
SP	95	1,330	1,425
GGT	100	1,440	1,540
FERRY	30	400	430
OTHER	60	670	730
TOTALS	2,245[2]	33,030	35,275

[1]Source: Modal split factors contained in Guidelines for Environmental Evaluation - Transportation Impacts, Department of City Planning, San Francisco, 3 June 1980. (revised October 1980)

[2]This number exceeds the 2,175 person-trip projection (see Table 8, page 70) because intermodal transfers are included. These transfers are reflected in the modal split distribution outlined in Guidelines for Environmental Evaluation - Transportation Impacts."

On page 71, paragraph 1, first sentence:

"A total of about 12,800 new p.m. peak hour auto trips are projected (see Table 7, page 69)."

On page 73, the first paragraph is replaced with the following:

"The 1983 patronage characteristics and load factors for the various downtown Muni lines are outlined in Table 11, page 74. These statistics already reflect the growth in patronage due to other downtown development. Cumulative development would increase patronage by about 30% and those lines with load factors greater than 1.00 would be experiencing significant congestion. Since the listed load factors are an average of all the loads during the peak hour, certain runs in that peak hour could experience even greater congestion. The LRVs on Muni Metro lines are designed for a seated capacity of 68 and a maximum passenger load of about 150; at a load factor of 1.00, about 80 people would be standing (from Muni 5-Year Plan, 1979-1984, page 20)."

4. Parking

COMMENT

Commissioner Nakashima

"On page 41, I'd like to know what the parking area boundaries are. It just says south of the proposed site is the area. But there's a definition of it, but it doesn't really make it clear how far south it goes."

Commissioner Bierman

"Page 45 is the parking survey. And I am, again, worried that we are including in the survey things that are not potential parking places.

"Now, this is assisted parking and maybe it's all right to have it in, but there also ought to be a page which shows which of these pieces are no longer available. I am thinking particularly of the site in the diagram between Second and Third, and between Mission and Howard. It's almost half a block, and so far as I know, that particular parcel has already been designated as potential housing or some other kind of development by the Redevelopment Agency for the YBC project. I'd like that whole page checked, and another diagram showing which of that is already intended for development."

On page 74, Table 11:

TABLE 11

Muni Patronage Summary
PM Estimated Peak Hour-Outbound Direction

(Muni Lines Within 2,000 Feet - 2-3 Blocks - of Project Site)

	1983 Patronage				Load Factors***		
Line	Existing* Patronage	Without Project**	With Project	Capacity	Existing	1983 Without Project	1983 With Project
1	400	539	549	450	0.89	1.20	1.22
2	572	773	787	600	0.95	1.29	1.31
3	511	689	698	525	0.97	1.31	1.33
5	986	1,331	1,356	1,275	0.77	1.04	1.06
6	500	677	690	675	0.74	1.00	1.02
7	327	442	450	450	0.73	0.98	1.00
8	658	888	905	1,125	0.59	0.79	0.80
9	531	716	729	750	0.71	0.95	0.97
11	676	911	928	750	0.90	1.21	1.24
12	487	657	669	525	0.93	1.25	1.27
14	1,215	1,642	1,673	1,275	0.95	1.29	1.31
14GL	253	342	348	300	0.84	1.14	1.16
14X	655	884	901	675	0.97	1.31	1.33
15	887	1,196	1,218	975	0.91	1.23	1.25
17X	260	350	357	375	0.69	0.93	0.95
21	660	893	910	825	0.83	1.08	1.10
27	158	212	216	300	0.53	0.71	0.72
30	1,067	1,442	1,469	1,425	0.75	1.01	1.03
30X	822	1,112	1,131	975	0.84	1.14	1.16
31	498	676	689	525	0.95	1.29	1.31
32	416	561	572	1,050	0.40	0.53	0.54
38	989	1,334	1,359	1,125	0.88	1.19	1.21
38L	656	884	901	675	0.97	1.31	1.33
40X	321	435	443	525	0.61	0.83	0.84
41	90	120	122	325	0.28	0.37	0.38
42	230	312	318	300	0.77	1.04	1.06
71	379	512	522	375	1.01	1.37	1.39
72	276	373	380	300	0.92	1.24	1.27
80X	433	585	596	600	0.72	0.98	0.99
J	798	1,077	1,097	1,235	0.65	0.87	0.89
K	3,119	4,210	4,289	3,900	0.80	1.08	1.10
L	1,750	2,360	2,404	2,650	0.66	0.89	0.91
M	1,340	1,810	1,844	1,325	1.01	1.37	1.39
N	2,050	2,768	2,819	2,400	0.85	1.15	1.17

*Capacity, patronage (without project) and load factors (without project) obtained from Guidelines for Environmental Evaluation Transportation Impact, Department of City Planning, San Francisco, 3 July 1980 (revised October 1980). (Also includes projects approved from November 1980 through October 1981).

**Patronage and load factors (with project) reflect a line by line proportional distribution of the proposed project's estimated Muni patronage.

***The listed load factors are an average of all the loads during the peak hour. Certain runs in that peak hour could experience even greater congestion. Load factor is a measure of vehicle capacity. For most Muni vehicles a load factor of 1.00 represents a designed capacity of 150% of the number of seats. For LRV's a load factor of 1.00 represents a designed capacity of 220% of the seated capacity. For example, a load factor of .85 on the N Judah line would mean that approximately 60 people would stand, 20 fewer than the maximum number of standees for which the vehicle was designed.

"Page 77, I'm very disturbed particularly with the closeness of this project to YBC center. I think that the whole parking thing has to really be looked at before this project is approved and before the number of spaces needed is assigned. We have built and are trying to make profitable or at least not a failure that center. And how we handle the transportation down there is going to be really crucial. So I think there needs to be more discussion of it and of the YBC Gardens and that whole parking question, because the City is depending on functionability for success of the center."

Chairman Rosenblatt

"On page 78, where there's a discussion of what happens to the parking occupancy, does this account for the expectation of the parking demand from Yerba Buena Gardens, Yerba Buena Center?"

"There is, further on, that the cumulative impact would result in increased parking demand south of Folsom and beyond. Where is beyond? What is reasonable? If it's walking distance, where is it? If it's not walking distance, how are they going to get back and forth and what are the impacts of that?"

Commissioner Nakashima

"On page 45, there's a map on the parking survey. I'd like to know if it's up to date and it has all the gray areas of where the parking's available. I'd like to know if we have crossed out all of the development that's either been approved or that we know about that's either an EIR or other, so that if they are being planned, then they shouldn't be counted as being available any longer; and if they're deleted, then it should change the numbers on available parking and the impact on that."

RESPONSE

Page 41, paragraph 3 is revised as follows:

"The proposed project site is 1½ blocks south of the Downtown Core Automobile Control Area,[1] and is across Folsom Street from a short-term parking area located under the elevated freeway."

Page 41, paragraph 4 is revised as follows:

"A parking occupancy review[2] has been compiled for the project area (bounded by Market, Townsend, Main and Fourth Streets and The Embarcadero). Within this area,

8,290 public spaces are available in 66 off-street parking facilities (see Figure 24, page 45). The average occupancy (during the midday) for the various facilities is approximately 7,046 spaces (85%). With the Yerba Buena Center and other proposed projects, the available parking supply would be reduced by 1,500 which could result in inadequate parking facilities being available. Figure 24, page 45, depicts parking facilities which would be displaced by development within the area surveyed."

Page 41, footnote 2, is changed as follows (footnotes 3 and 4 are deleted):

"[2]Field observations conducted by EIP Corporation on Wednesday 13 January 1982."

The housing referred to by Commissioner Bierman would be located between Second and Third Streets, and between Mission and Howard Streets.

On page 4, the second sentence of paragraph 4 is changed to read:

"Based upon City guidelines, a demand analysis indicates that 886 automobile spaces would be required. A survey analysis of office buildings within one block of the site, conducted for the project sponsor, indicates a demand of 786 auto parking spaces."

On page 77, the third sentence to paragraph 3 is replaced with the following:

"Analysis suggests the project parking demand could range from about 790[2] to about 890[3] spaces depending upon the assumptions and methodology used. The lower end of the range resulted from a survey conducted by project sponsor's consultants of Pacific Telephone office buildings at 633 and 666 Folsom Streets. The high end of the range is the result of using City guidelines.

"Trip generation per square foot can vary widely with the character of the occupancy; factors such as amount of retail space, labor intensity, amount of client contact, whether the building houses executive or record-keeping functions, amount of equipment or furniture needed for a function, etc. Therefore a single survey involving the PT&T buildings may not produce a statistically significant result which can be applied to the subject building unless the nature of the occupancy for the project would be precisely the same as that of the surveyed buildings.

"City guidelines are the compilation of many surveys which assume a mix of tenants and functions. This has the effect of smoothing out variations from survey to survey. Precise tenant profiles are not necessary to use these guidelines."

On page 77, footnote 2 is replaced by the following two footnotes and footnote "3" on line 9 of the third paragraph is renumbered to "4".

"[2]A demand analysis based upon employee survey indicates a total demand of 786 spaces:

490 single-occupant autos + 221 ride-sharing vehicles = 711 long-term spaces*

200 daily office visitors ** x 36% auto/1.4 persons per auto/5.7 turnovers daily = 10 short-term spaces

"Retail parking demand was calculated on the basis of 150 daily person-trips per 1,000 net square feet; 75 internal to the project and 75 external to the project:

26,000 x 75/1,000 x 10% employee x 36% auto/2 trip ends/1.4 persons per auto = 25 spaces

26,000 x 75/1,000 x 90% customer x 36% auto/2 trip ends/1.4 persons per auto/5.7 turnover daily = 40 spaces

*Jon Twichell Associates, Transportation Program - Marathon Second & Folsom Building, September, 1981.

**Letter from DKS Associates to Jon Twichell Associates, February 18, 1982."

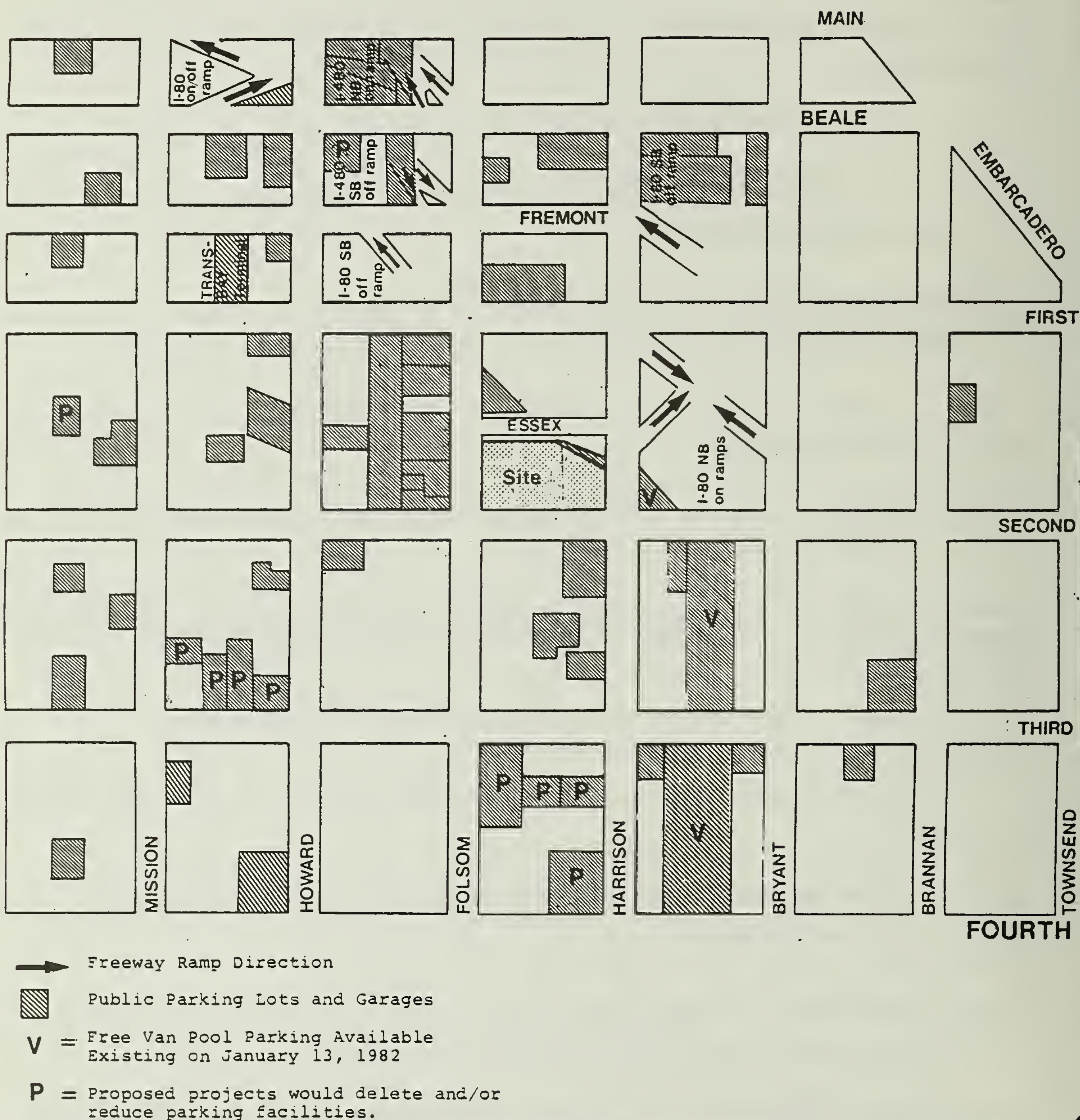
"[3]A demand analysis based upon City guidelines indicates a total demand of 886 spaces:

5,835 daily work trips x 36%* auto/1.4** persons per auto/2 trip-ends = 750 long-term spaces

6,015 daily non-work trips x 36%* auto/1.4** persons per auto/2 trip-ends/5.7** turnovers daily = 136 short-term spaces

*San Francisco Department of City Planning, Guidelines for Environmental Evaluation: Transportation Impacts. June 1980 (revised October 1980.)

**National Cooperative Highway Research Program, Urban Travel Patterns for Hospital, Universities, Office Building and Capital Report No. 62, 1969."



Parking Survey

North
Not to Scale

Figure No. 24

On page 77, paragraph 3, the 5th sentence, the text has been changed as follows:

"Parking inventory/occupancy surveys[4] in the area indicate 8,290 parking stalls with present occupancy rates of about 85%."

On page 77, footnote 4, now reads:

"[4]Field observations conducted by EIP on 13 January 1982." (This survey supercedes references included in the EIR).

On page 78 the text has been changed as follows:

" . . . and the added demand due to the project would effectively raise the parking occupancy from 85% to 99% within the area surveyed. The development of the Yerba Buena Center (YBC) would also add to the parking demand in the area. The original YBC EIR[1] projected a parking deficit of 2,000 - 4,800 spaces, a projection which considered both the removal of existing parking lots and the new parking originally proposed in 1978 as a part of the YBC development (not including the more recently proposed 1,200-1,500 space parking garage currently under review). The San Francisco Redevelopment Agency is currently considering a number of proposed public and private parking facilities in the YBC area.[2] These facilities would alter the foregoing projections of parking deficits. In addition, the cumulative downtown development projected for the next 3 years would add about 18,000 spaces to the parking demand in the downtown area; the proposed project would account for about 6-8% of this increase (890 spaces calculated above to the 1,196 spaces required by the Code (see Table 13, page 78).

---

[1]Department of City Planning, <u>Final EIR Yerba Buena Center - Volume II</u>, (EE 77-220), certified 25 April 1978, pages 345a - 348.

[2]Mike Mann, Development Specialist, San Francisco Redevelopment Agency, telephone conversation, 18 January 1982.

The increased demand due to the project and cumulative development would raise the parking occupancy to 100+% within the area surveyed. It is probable that the cumulative impact would be an increased parking demand south of Folsom Street and beyond to The Embarcadero. Persons parking this far from the downtown would be forced to walk longer distances. These persons could also use available public transit. However, these additional passengers could exacerbate congestion on the limited Muni lines operating south of Folsom Street. Added vehicle circulation would also result from the increased number of vehicles seeking the limited number of parking spaces, increasing street congestion.

"The foregoing factors suggest that the Yerba Buena Center could be impacted by inadequate parking. Visitors to the center would find little if any parking in close proximity. These visitors would have to park further away and walk longer distances or use one of the Muni lines as a connecting link. If feasible, visitors may choose to shift to public transit to access the center."

5. Traffic

COMMENT

Gary Agid, Air Resources Board, letter of 22 December 1981

"It is assumed in the EIR, (page 66) that 50% of all trips are generated within the project. This assumption is unfounded and may underestimate the actual traffic related pollution generated by the project. Thus, data or references supporting this point are necessary."

"Table 8, (page 70) identifies all major thoroughfares located four blocks away from the location of the project. The EIR also needs to identify the traffic volumes on roads near the project, for example, Second Street."

Commissioner Bierman

"Now, on page 71, I wonder when we're going to start using a new level, which would be G. We have been dealing with these for several years, and all we ever get to is F.

And I have the definite impression we must be at G by now or at least by the time these get built. I don't think we can just hang around at F. I think it's important to start having something besides those levels. I think we need an estimate of what each level means in terms of how long a wait there will be at signal changes, how long a car will need to wait, particularly at 15-minute periods, peak of the peak. We need more explicit data on the time, the inconvenience, and possibly the danger of such street clogging.

"I am thinking particularly of emergency situations of ambulances, of fire trucks, and what kind of a situation we really are creating in the lower part of the -- in this part of the city in case of an emergency."

Paul Hughes, Caltrans District 04 letter of 29 December 1981

"Project-generated traffic will add to existing AM and PM peak period congestion on State Routes approaching and within San Francisco."

"Existing, plus project-generated, plus other known future AM and PM peak-hour traffic volumes for all through and turning movements for local streets and freeway ramps within the study area should be shown in the EIR. Since AM and PM peak-hour traffic patterns are not necessarily the same, we would like the EIR to also include the AM peak-hour traffic analysis to enable us to determine the AM peak-hour traffic impacts on our facilities."

"On page 121, Unavoidable Adverse Impacts, Transportation - the first sentence notes a degradation of Traffic Level of Service at 2nd/Folsom Streets intersection from B to C. This seems to imply a degradation only at 2nd/Folsom intersection, while Table 10 on page 71 shows it also for 2nd/Harrison Streets intersection with or without the project. This should be clarified in the EIR."

RESPONSE

Page 72, paragraphs 1 and 2, of the EIR will be changed to read:

"Because traffic flows during the peak 15 minutes are 10-15% higher than average flows throughout the peak hour, the intersections would operate approximately 1 service level lower during these peak 15-minute periods.

"In addition to a degradation in the quality of traffic flow on surface streets as a result of the cumulative development, the freeways and freeway ramps would be critical links in the overall network. With the freeways currently operating under congested conditions during peak hours, the traffic increases generated by cumulative downtown development would add to this congestion, with the likely result that travel delays would be extended. If mode splits remain unchanged, traffic delays would probably increase in proportion to the increased trip generation of the downtown area. The 30-35% increase in trip generation attributed to approved downtown development would therefore add 30-35% to peak hour delays. As further development occurs, the peak hour traffic flows could be extended over a 2-3 hour period. However, this is not the historical pattern of recent years as the number of persons per car has increased as has transit ridership.

"A further concern is related to the potential demolition of The Embarcadero Freeway. Although no specific projections are available, the removal of this freeway would add traffic to surface streets and could focus further traffic at on/off ramps in the vicinity of the proposed project. The demolition is considered to be among the City's highest priorities but the final decision[1] depends upon the findings of an environmental review of the project.[2]"

The levels of service classification of the Department of Public Works, Traffic Engineering Division, does not describe a condition worse than "F" which is a "jammed" condition. (See definitions on page A-53 of the EIR).

The first sentence on page 121 of the EIR is changed to read:

"The proposed project would cause a degradation of one Traffic Level of Service (from B to C) at the intersection of Second and Folsom Streets. The Level of Service at the intersection of Second and Harrison Streets would be degraded from B/C to E either with or without the project."

The EIR refers to 50% of the commercial trips being internal to the project. The 26,000 square foot commercial portion of the project would include shops, restaurants, banks, etc. which would serve the project tenants as well as other persons outside the project. It is reasonable that one-half of the 1,950 daily commercial trips would be internal to the project. The 975 internal (one-way) person trips would reflect about 400 persons from the project visiting the commercial areas on a daily basis (a portion of the one-way trips would represent multiple trips between commercial uses). With an estimated 3,000

employees in the completed project (page 64 of the EIR), 12-15% of the employees would visit one or more of the planned commercial uses in the project.

Peak hour traffic volumes have been obtained for the four intersections surrounding the project site (Folsom/First, Folsom/Second, Harrison/First and Harrison/Second). These volumes are included in the intersections capacity analyses and copies of the calculation sheets are included as Appendix H, found at the end of this document. Daily counts are not available on these streets but 24-hour volumes would be approximately 10 times the peak hour figures.

A new footnote "1" is added to Table 9 on page 71 of the EIR as follows:

> "[1]See Appendix H, page A-81, for Intersection Capacity Analysis worksheets."

Footnote "1", line 4 on page 71 of the EIR is changed to "2".

The EIR (page 71) indicates that with cumulative downtown development, "peak hour auto travel in the downtown area could increase by approximately 30%". The specific effect of this increase on adjacent intersections is assessed and intersection service levels are listed in Table 10, page 71 of the EIR.

The EIR (page 70) generally acknowledges that the Interstate 80 Freeway operates at jammed conditions (Service Level E-F) during the evening peak hour. Page 72 of the EIR indicates that traffic increases generated by cumulative downtown development will add to this congestion with the probable result that travel delays will be extended. During the AM peak hour the I-80 freeway operates at somewhat unstable flows (service level D-E) but not the jammed conditions typical during the evening peak hour.[1] Congestion at other points (such as the Bay Bridge toll plaza) tends to restrict morning flows at locations external to the downtown. These restrictions essentially "meter" inbound traffic and allow for somewhat better flows during the AM peak hour. Cumulative development would increase inbound traffic in the morning, exacerbating congestion at these external locations.

COMMENT

Paul Hughes, Caltrans District 04 letter of 29 December 1981

> "In figure #22 on page 40, Essex Street is is located between Folsom and Harrison Streets and between 2nd and 1st streets should be shown."

[1]Mr. Len Newman, Chief, Highway Operations, Caltrans, telephone conversation, 5 April 1982.

RESPONSE

Figures 22, 23, and 24 are revised to show Essex Street.

6. Pedestrians

COMMENT

Commissioner Bierman

> "Page 74, where it talks about 2,000 feet, I think that ought to be broken down into how many blocks that is. Two-thousand feet doesn't have any meaning to me for some reason. I'm not even sure what a thousand feet is in the city. And there could be some talk about what that means."

RESPONSE

Pages 72, paragraph 5, is amended to read as follows:

> "San Francisco Municipal Railway. Muni operates 34 routes within walking distance (2,000 feet or 2 - 3 blocks) of the project site (Table 2, page 43). (In the South of Market area blocks are approximately 400 feet long by 600 feet long.)"

The title of Table 2, page 43, is amended to read "Summary of Muni Routes Within 2,000 feet (2-3 blocks) of Site."

7. Mitigation

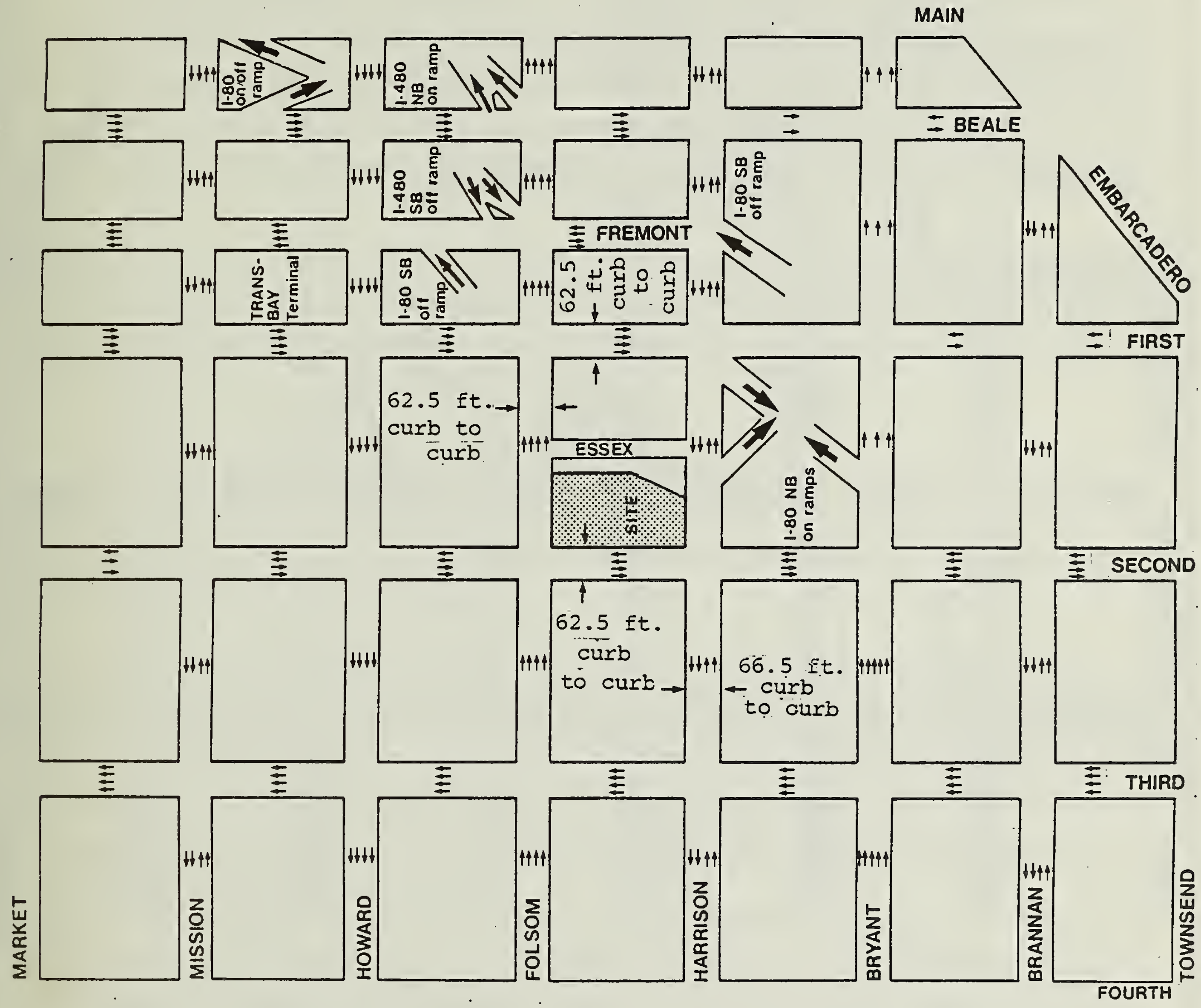
COMMENT

Sue Hestor

> "As a mitigation system, you have to include . . . a real development of a transit system south of Market in conjunction with this building and all of the other ones that are in the pipeline. That involves massive amounts of capital."

Commissioner Rosenblatt

> "In the summary and in other points of the draft EIR, the only discussion of mitigation measures with respect to the transportation issues relates to the transportation management or transportation management program, until you get to page 117, in which it does indicate that the project sponsor would contribute to the fund, et cetera, the usual language with respect to transportation service.
>
> "The absence of that statement in other places and its occurring in one leaves me with some confusion. Is it your intent to do that or not?



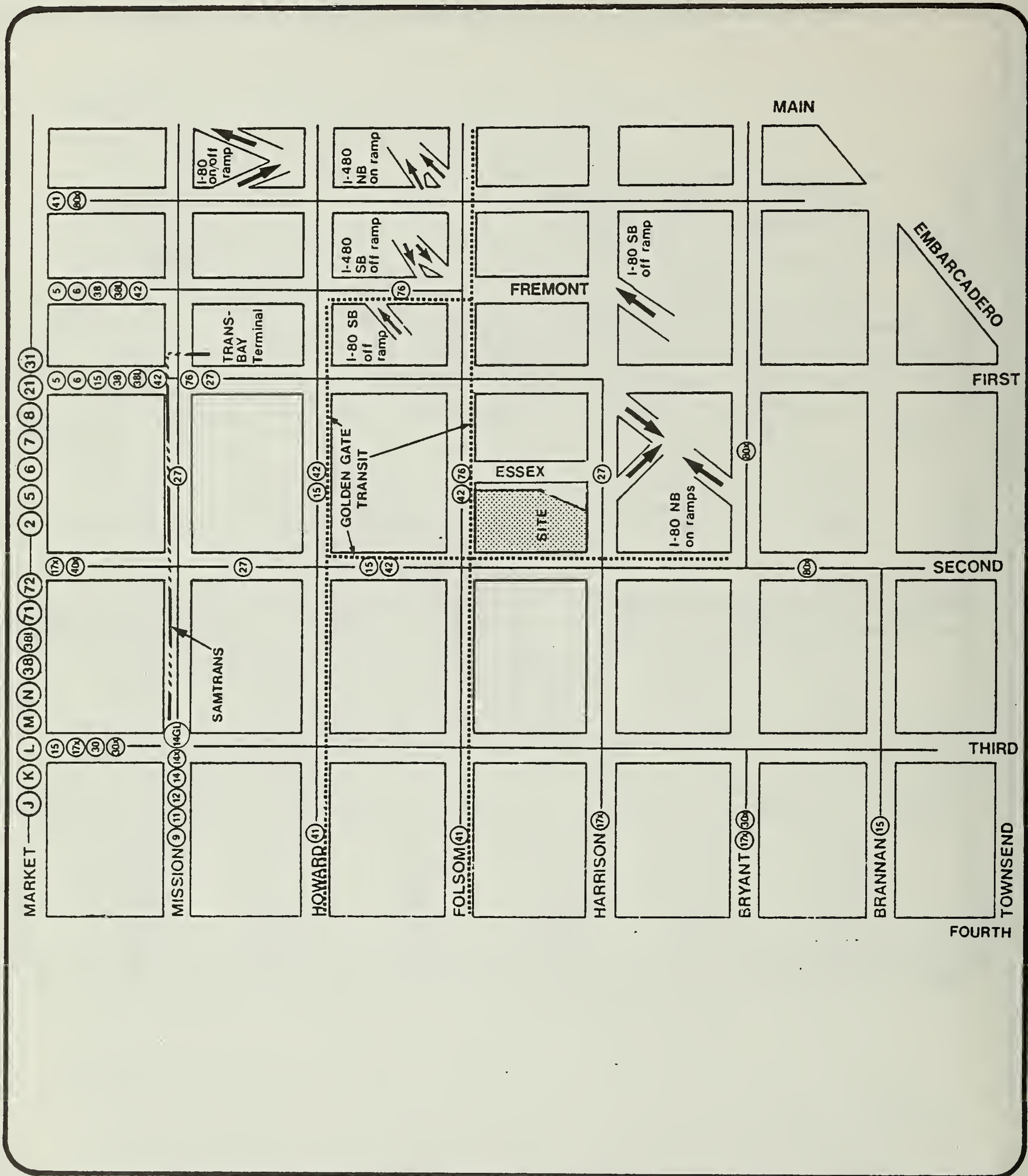
Traffic Network

Number and Direction of Traffic Lanes

Freeway Ramp Direction

North
Not to Scale

Figure No. 22



Transit Routes

Freeway Ramp Direction

(15) Muni Route

Golden Gate Transit Route

Samtrans Route

North

Not to Scale

Figure No. 23

"On page 116, second to the last paragraph where the discussion relates to feasibility of parking operations underground. The feasibility is discussed in terms of potential parking revenues. My question is whether that is, in fact, justification for parking. Our parking requirement codes and our master plan I don't believe are based on whether you get enough parking revenues to justify putting in parking. It's there as ancillary to the principal purposes."

RESPONSE

At the 17 December 1981 Public Hearing, Mr. Rolf Wheeler, representing the project sponsor, responded to Commissioner Rosenblatt's question on contributing to the transit fund as follows:

"Yes. It is our present intent to stand by that sentence."

A detailed discussion of transit development south of Market is found in Response to Comment under Transit on page 196.

Page 116 of the EIR discusses the feasibility of underground parking structures. Below grade excavation and construction would be very expensive and potential revenues from parking would not amortize the cost. Therefore, the project sponsor has rejected this option as a mitigation measure. Under Planning Code Section 304, the Planning Commission must require parking as a condition of approval according to what it finds is adequate for the occupancy proposed.

By comparison, a project now being designed for a site at 740 Harrison Street (approximately 1,600 feet southwest of the proposed Second and Folsom project) included the provision of underground parking. In estimating the construction cost of the 740 Harrison Street project, it was determined that the parking facilities would constitute about 40% of the total project cost, and that the construction cost per parking space would be from $30,000 to $33,000. Thus, for every $1.00 spent to construct office space, about $0.67 would be spent to construct parking space. Excavation to 40 feet below grade would be necessary to accommodate the parking garage and to permit construction of the required office space above ground within the limitation posed by the zoning height limit on that site.

This example corroborates the experience of the San Francisco Parking Authority, which has indicated that the total project cost for developing underground parkng in San Francisco is about $40,000 per parking space based on their experience and reflects costs associated with mechanical equipment (mostly required ventilation equipment) and excavation costs.[1]

The Moscone Center parking facility, which the Parking Authority will build and operate, offers 800 spaces to the YBC area. Total construction costs are estimated at $11 million ($13,750 per space) and would take nine years to amortize initial construction expenses with no anticipated return on investment until several years after the amortization period.[1]

If the proposed project at Second and Folsom Streets were to be expanded to provide parking facilities for 1,196 cars, the project design would require substantial revisions. Three underground parking levels would be required across the entire site to accommodate the parking. It is anticipated that subsurface conditions would be similar to those encountered at 740 Harrison; however, the rock formations underlying the Second and Folsom site might increase the difficulty and expense of excavation. If the cost estimate for the example described above is used as a comparable estimate of the cost of providing underground parking at the Second and Folsom site, the project cost would increase by about $27,000,000 to $30,000,000. Also, construction of underground parking across the entire site would inhibit the possibility of developing an outdoor plaza of the size and character included in the proposed project.

Development of above grade, off-site parking for 838 cars (1,196 spaces required by code less 358 spaces provided in the project design) would require a rental rate of $633.00 per month for each parking stall. Off-site parking developed below grade, for the same number of cars, would require a rental rate of $1,144.00 per month for each parking stall.

---

[1] Margaret Brady, San Francisco Parking Authority, telephone conversation, 16 March 1982.

These rental rates are based upon the development construction and financing assumptions listed below.[1]

Assuming that the monthly parking rates would be $100.00 per stall in 1984, the difference between the rate of $633.00 per month or the rate of $1,184.00 per month would have to be subsidized by the building owners. This subsidy would amount to $5.4 million a year for the above grade parking and $10.5 million per year for below grade parking.

Assuming there would be 650,000 square feet of rentable office and retail space, an additional $16.15 per square foot of rental cash flow would be required to subsidize the below grade parking rental fee or an additoinal $8.25 per square foot to subsidize the above grade parking fee. The project sponsor states this new rental structure would affect the market viability of the project, which is intended as "secondary" office space, since it would then not be competitive within the San Francisco and regional markets.

COMMENT

Gary Agid, Air Resources Board, letter of 22 December 1981

"The EIR needs to quantify the impact of the mitigation measures addressed on page 115. The EIR needs to demonstrate that selling bus passes is an effective mitigation measure if the buses are currently operating at capacity. Section 15143(c) states, 'Describe significant, avoidable, adverse impacts, including inefficient and

[1] Assumption:

Garage Capacity: 838 cars
Above Grade Construction Cost: $13,750 per stall
Below Grade Construction Cost: $40,000 per stall
Land Value: $200 per square foot
Interim Financing Interest Rate is 16%.
Permanent Financing Interest Rate is 13.5% amortized over 30 years.
Land-Related Interim Financing Charges:
Appropriate Period is 2 years;
Average Rate of Expenditure is 75%.
Construction-Related Interim Financing Charges:
Appropriate Period is 1.5 years;
Average Rate of Expenditure is 50%.
Miscellaneous Interim Financing Charges:
Appropriate Period is 2 years;
Average Rate of Expenditure is 50%.

Source: Marathan Development California Inc., Parking Structure Feasibility Analyses, 1 April 1982.

unnecessary consumption of energy, and measures to minimize these impacts. The discussion of mitigation measures shall distinguish between the measures which are proposed by project proponents to be included in the project and other measures that are not included but could reasonably be expected to reduce adverse impacts. This discussion shall identify the mitigation measures which will eliminate such impacts or reduce them to a level of insignificance. Where several measures are available to mitigate an impact, each should be identified.' "

RESPONSE

The mitigation measures listed on pages 114 and 115 would constitute a single coordinated transportation program for the proposed project. On page 116 of the EIR, it is estimated that the total transportation program would result in 10% less single occupant auto commuting by project employees. This estimate is based upon the effect of similar transportation programs at other locations in San Francisco. It is not possible to identify the specific effects of individual components within the total program. The data base does not allow that level of specificity in the projections.

F. AIR QUALITY

COMMENT

Sue Hestor

"In terms of transit on page 72, I think that you are backing into a situation here of not looking at the transportation and transit system that exists in this area, and all of the burdens that might be placed on it.

"This is not an isolated site. This is right next to a freeway ramp. It is also right next to the ramp for the buses that go to the terminal. What are the real impacts in terms of congestion and backup and air pollution because of it in this site?

"You are putting a project basically right under a freeway a very large project right underneath the freeway. And I'm not sure that you analyzed it sufficiently."

RESPONSE

The freeway ramps discussed are elevated above ground level and are normally downwind of the site. As a result, the freeway ramps do not contribute directly to the ground-level-

curbside concentrations which are estimated in the EIR. The effects of all sources which do not directly impact the project area are assumed to be subsumed within the backgrounds concentration which is estimated based upon monitoring data.

COMMENT

Sue Hestor

"With regard to air pollution mitigation on page 117, I want to see something that's an air pollution mitigation in one of these EIRs, and I'll continue to raise the issue. All of your air pollution mitigation is transit and van pooling, and selling Muni fast passes. That is your air pollution mitigation. I think you have the responsibility to say how much that is going to mitigate. How much air is going to be cleaned up by selling fast passes. How much air pollution is going to be cleaned up by van pooling. Versus how many people are going to drive no matter what, especially to this area, especially if they have to work late at night."

"On air pollution . . . how many trees can you plant to clean up the air. I mean let's do some real air pollution mitigation for once."

RESPONSE

The improvement in air quality that would occur as a result of selling fast passes on-site, van-pooling or other mitigation measures intended to reduce traffic volumes depends on the number and location of vehicle miles which are not driven as a result of the mitigation measures. The potential improvements from mitigation measures for this project would be a portion of the total impact of the project and would likely be sufficiently small to be beneath the sensitivity of the air quality analysis methods and beneath the sensitivity of the measuring equipment. This is a result of the comparatively small impact of the project compared to existing levels (project-induced CO is less than 10% of existing levels), as well as the fact that some trips will inevitably be made by automobile rather than transit. It should be noted that inclusion of these mitigation measures in many

projects would result in a cumulative reduction which might provide a measurable reduction in pollutant concentrations.

Planting trees in the vicinity of the project would not reduce the carbon monoxide impacts of vehicular exhaust emissions (see for example, Federal Highway Administration Office of Research and Development, Highway Air Quality Impact Appraisals, Volume I. Introduction to Air Quality Analysis, Report No. FHWA-RD-7899, Washington, D.C., June 1978). Vegetation of all types helps remove ozone, nitrogen dioxide, and sulfur dioxide from the atmosphere, but these processes are far slower than would be required to produce a measurable change in air quality levels.

COMMENT

Gary Agid, Air Resources Board, letter of 22 December 1981

> "It is uncertain what modeling methodology was used in deriving the carbon monoxide concentrations listed in Table 16 (page 85). This needs to be documented along with the calculations presented in a technical appendix. In addition, the assumptions including automotive emission factors used in deriving the concentrations should also be documented for determining whether a worst-case situation has truly been modeled."
>
> "The EIR needs to determine the project's consistency with the applicable Air Quality Management Plan."

RESPONSE

A new footnote 2 is added to Table 16 on page 85 of the EIR as follows:

> "[2]See Appendix G, page A-79 for Assumptions and Procedures for Calculation of Worst-Case Curbside Carbon Monoxide Concentrations."

New Appendix G is added to the Appendices starting on page A-79.

Footnote 2 to Table 17 on page 85 of the EIR is renumbered to "3".

The following material is added to the EIR before the first paragraph on page 86:

"The 1979 Bay Area Air Quality Plan contains assumptions regarding regional growth which are based upon growth projections contained in General Plans which were in force at the time of the promulgation of the Air Quality Plan. Since the proposed project would be consistent with the General Plan that was in existence at that time, it would be consistent with the level of regional growth allowed by the Air Quality Plan. The proposed project would not conflict with the specific pollution control measures detailed in the Air Quality Plan. However, since the proposed project would result in an increase in regional pollutant emissions, it could contribute to a delay in the achievement of the air quality goals of the Plan."

G. IMPACT ON M-1 DISTRICT, INCLUDING LAND USE AND ZONING

1. Impact on M-1 District

COMMENT

John Elberling

"The growth inducement also needs to note the nearby redevelopment project, and it should note the pending Planning Department's study if not recommendations for some kind of measures to protect light industry in the area directly west of Second Street."

RESPONSE

The following has been added to page 110 of the EIR:

"Four blocks to the east of the proposed project is the Rincon Point Redevelopment Project, and two blocks to the south is the South Beach Redevelopment Project. In the 1981 development plan for both areas, residential, commercial and park land uses are proposed. In addition, hotel (400-800 room complex) use is designated for the Rincon Point Area, and a small boat harbor is planned for the South Beach Area.[1] No office land uses are designated in the plan.

"[1] San Francisco Revelopment Agency, "Redevelopment Plan for the Rincon Point - South Beach Project Area". Adopted and Approved by the Board of Supervisors of the City and County of San Francisco, Ordinance No. 14-81, January 5, 1981."

"The department of City Planning is completing a study of the South of Market Area and is formulating policies for "Industrial Protection Districts."

The specific measures had not been adopted by the Planning Commission at the time this document was prepared.

COMMENT

John Elberling

"In the impact section there has to be some analysis of how this project, very large, is going to impact that possible wide industrial area west of Second Street, because it's a question of land values, and it would be good if they could actually provide some sense of land value movement in the area in the last couple years. We all know it's gone up. They can probably without much trouble get some more data on it."

RESPONSE

The following text and table have been added as the last paragraph of the Land Use and Zoning Section, page 30.

"Land values in the South of Market area near Second Street have increased nearly threefold in the last five years. Prices per square foot vary, generally increasing closer to Market Street and can be influenced by such considerations as zoning (height and bulk), access to transportation/transit and the condition of existing buildings on site. Commercial land values throughout the City have increased about 400% over the last 3 years.[1]

"A recent survey of 17 commercial property transactions in the City's South of Market Study Area[2] indicated that current prices per square foot range from $25 to $109 with a mean of $58. Table 1A provides an estimate of land values near the proposed project since 1977.

"TABLE 1A

ESTIMATED LAND VALUES IN THE BLOCKS
BOUNDED BY TOWNSEND, FOLSOM, 3rd AND 4th STREETS

YEAR	VALUES PER SQUARE FOOT
1977[1]	$20-30
1978[1]	$25-35
1979[1]	$35-45
1980[2]	$45-55
1981/82[3]	$60-90

Source:

[1]Ron Katz, Ritchie + Ritchie Corporation

[2]Howard Sheahan, Merrill Lynch Realty

[3]The range of current values represents averages of ranges reported by Jeff Schultz, Coldwell Banker; Donald Sambucci, Century 21 - Lampley Realty Inc.; Richard Maguire, Allied American Properties; Baldwin + Howell Brokerage Services; Ron Katz, Ritchie + Ritchie Corporation; Howard Sheahan, Merrill Lynch Realty, per telephone communications, 20 January 1982."

"[1]Ronald Boyer, Coldwell Banker, telephone conversation, 26 February 1982.

"[2]A study area is bounded generally by the Embarcadero, Townsend Street, the Central Skyway, Mission Street (from South Van Ness to 4th Street) and Folsom Street (from 4th Street to The Embarcadero, Dean Marcris, Memo Regarding South of Market Interim Controls, 26 January 1982, page 4."

COMMENT

John Elberling

"On the question of growth inducement both in the setting and the impacts as appropriate. We're all aware there are several, in fact many warehouses along Second Street now being processed for conversion to office space, some of them to be expanded. I'm speaking of Second Street south of Folsom along with this project. That should be noted in setting. And we should get some square footages so we can be apprised of how many square feet of office space is coming on-line on Second Street."

Sue Hestor

"And I'm especially concerned that the points that I made in terms of cumulative impact of eliminating the M districts and turning them over to C-3 uses have been really glossed over. And I'm raising that as an issue and want the staff to go back to both my generic comments as well as my specific comments on the draft initial study."

"The impact of an office building in an M-1 district is qualitatively different from the impacts of an office building in a C-3-0, and I believe different from a C-3-S. Industrially zoned land is a very important part of the city's industrial base.

"You can't have a lot of heavy duty uses that take a lot of trucks in an area with a lot of offices, because among other things, the street system has different needs. You have different hazards if you have a lot of people in the area, and the rent structure changes. People that can afford 50 cents a square foot in an industrial zone can't afford that same land if it's renting for 10 or 20 or 30 times as much per month."

"And I am distressed about the failure in this EIR to deal with the impacts of encroaching with a fairly large building in a fairly key location in the M-1 district. You need a cumulative impact analysis that not only deal with cumulative impacts the way you deal with all of them downtown, which is as insufficient already as it is. You need a cumulative impact analysis that is qualitatively different. One that focuses on the cumulative impact of taking away the M zoned area and turning it over to office buildings.

"Because you need to understand and I need to understand the impacts of losing warehousing, of losing printing, of losing port support land, of losing all of the spaces that you see on Howard and Folsom and Harrison and Bryant and Brannan and Townsend and King Street right now. And this is a decision to say that M zone doesn't mean anything. M means offices are allowed, so, therefore, since they are allowed, they can take it over.

"And I think that is very important. One of the places it belongs is on page 28, and another place it belongs is this analysis on pages 54 through 56."

"I think you need to have in this EIR an enumeration of everything that's happening south of Market that is an office construction or conversion form the waterfront down to Seventh Street, at least to Seventh Street.

"How much is going on, how much is going to come in the next year. And what does that mean for C-3-G, C-3-S and M-1 and M-2 zone areas.

"Page 121, one of the unavoidable impacts of this project is possible elimination or serious encroachment on M districts. You are turning over industrially zoned areas to high rent districts. And one of the impacts will be further pressure on all of the surrounding blocks to eliminate all of the other industrial uses and turn them over to high rent office buildings."

RESPONSE

Department of City Planning records indicate that in November 1981, 9 projects were under formal review by the City along Second Street, including the proposed project:

	Gross Square Feet
2nd and Folsom	754,000
UCB Bank Expansion	61,000
490 2nd and Bryant (c)	40,000
480 2nd and Stillman (c)	35,000
123 Towsend at 2nd (c)	104,000
615 2nd at Brannan (c)	106,000
625 2nd and Brannan (c)	168,000
144 2nd at Minna	30,000
Hunt/Knight Building	340,000
TOTAL	1,638,000 Gross Square Feet

(c) Conversion (generally industrial and/or warehouse to office)

In addition, the following projects are under formal review in the South of Market Area bounded by The Embarcadero, Seventh, Howard, and Berry Streets.

123 Townsend and 2nd	(c)	104,000	
252 Townsend at Lusk		70,000	
548 5th at Brannan		42,000	
868 Folsom		65,000	
466 Clementina near 6th		10,000	
UCB Bank Expansion		61,000	
480 2nd at Stillman	(c)	35,000	
539 Bryant at Zoe	(c)	86,000	
490 Bryant at 2nd	(c)	40,000	
Welsh Commons (4th and Bryant)		235,000	
201 Spear		263,000	
625 2nd	(c)	168,000	
655 5th and Townsend		126,000	
615 2nd and Brannan	(c)	106,000	
TOTAL		1,411,000	gross square feet

(c) Conversion (generally industrial and/or warehouse to office)

The 315 Howard project (389,000 square feet) is the only project approved, but not under construction, in the same South of Market area.

Pages 28, 29, 54-58 and 110 in the EIR discuss the land use designations near the proposed project and note that the proposed project would add to the cumulative impacts of continued office building construction in the South of Market area. Office uses are allowed in M-1 district, and some office support functions could be located in the office space currently under review by the Department of City Planning.

The Transportation Section (pages 72 and 79 of the EIR) addresses the cumulative impacts of increased office growth and potential circulation conflicts of trucks and automobiles. Increased traffic would conflict with truck maneuvering at existing industrial sites. Many of the existing industrial uses do not have loading docks and conflicts would be more pronounced at these locations.

The Department of City Planning is completing a detailed survey of land uses and employment changes in the South of Market Area. The study indicates that 37 industrial firms left the South of Market Area between 1975 and 1980 although industrial occupied space in the same area increased by 300,000 sq. ft. over the five year period. Concerning job displacement the report states, "The craftsmen/foremen occupational group declined by 34.2% from 1950 to 1970, and was expected to decline even more over the last decade. Regionally, the same occupational group of employed residents increased substantially by 77.9% (or 179,335) during that period."[1]

2. Land Use

COMMENT

Sue Hestor

"I question on page 57 whether the interpretation of the commerce and industry element is accurate. Because we are seeking to retain -- this says we are meeting their policies by encouraging existing commercial and industrial activity. And I think it's a hundred and eighty degrees in the other direction. We are saying to existing commercial and industrial activity in the M zones to go away, you are no longer needed, you will be out bid by office development."

Commissioner Nakashima

"Page 57. There's a statement about 'Objective 2, Policy One: Seek to retain existing commercial and industrial activity and to attract new such activity to the city.'

"Well, I don't know why that's in there, because this project doesn't do either one. It is not an industrial development and is surely not going to of itself attract new industrial activity."

[1] Dean Macris, Memo Regarding South of Market Interim Controls. San Francisco, 26 January 1982, page 7.

RESPONSE

The following paragraph is added on page 57 of the EIR before the second paragraph from the bottom of the page:

> "Industrial corporations may relocate to the City and use the office space of the proposed project for administrative and clerical functions. While the proposed project is not designed for industrial use, and in fact would not displace any industrial use, it would provide for commercial use."

COMMENT

Commissioner Nakashima

> "Pages 31 and 34, we've got a building called Blue Shield one time and Blue Cross another time. I'm not sure, is it both?"

RESPONSE

On Figure 19, page 34 of the EIR, the caption below Photograph A has been changed as follows:

> "Blue Shield building, southwest corner of Harrison and Second Streets."

COMMENT

Chairman Rosenblatt

> "Page 145, the table. Refer back to page 56, there are, I think, a number of typographical errors or clarifications in that table with the footnotes, the references to the lots."

RESPONSE

Table 21, page 145a, has been revised to show that Building B would be on 2 lots and is in two different height and bulk districts (see page 6 of this Comment and Response section).

A Blue Shield building, southwest corner of Harrison and Second Streets.

B View east along Harrison Street adjacent project site.

Project Area Photographs

See Figure 17 for photograph orientation.

Figure No. 19

3. Zoning

COMMENT

Sue Hestor

"One of the things that there is throughout this EIR and it starts in the summary, and it skips around in various places in it, is the term that this is adjacent to the C-3-0 district. I would like to point out that it is not, and that is one of the major problems of this project. That is an M-I district. It is not adjacent to C-3-0. It is adjacent to a C-3-S district. And I happen to believe that maybe those zoning terms mean something."

RESPONSE

The last sentence, first paragraph, page I of this EIR is changed to read:

"The site is adjacent to the C-3-S (Downtown Support) District."

The first sentence, page 3 of the EIR is changed to read:

"The proposed project would cumulatively contribute to new and proposed development occurring adjacent to the C-3-S District."

The first sentence, page 28 of the EIR is changed to read:

"The project site is located in an M-I (Light Industrial) District adjacent to the C-3-S (Downtown Support) District (see Figure 16, page 29). The C-3-S District exists primarily to accommodate near the intensive downtown core areas important supporting functions such as wholesaling, printing, building services and parking."

The first sentence, second paragraph, page 56 of the EIR is changed to read:

"The proposed project would cumulatively contribute to new and proposed development occurring on the fringe of the C-3-S (Downtown Support) District, as has been the trend for the last 20 years."

H. COMMUNITY SERVICES

COMMENT

Kay Patchner

"Now that we've admitted that there are employees that need housing, we have to assume that some of those employees are going to bear children. And we have to also assume that even if it's affordable housing, both people that are parents have to work in order to even afford what is called affordable.

"We need to have the analysis in the EIRs in every single draft for every single project on what the impacts are on the children in the school system.

"Now, there are other kinds of child care services that can be provided outside the school district. We know the school district is in desperate straits. If you read last week's Examiner, you understand what that has done to the child care services within the school district. You understand how many parents are waiting, if you read the article . . . So we need to measure not only child care services as they are applicable to the school district, but alternative ways of providing the child care, if the school district is unable to provide the necessary service.

"There are a variety of ways, and, once again, I urge you as a Commission and I urge you to urge your staff to go to the people in this town that have the data now that does not have to be originally created from your staff, go to the Mayor's Committee on Child Care and the folks at Child Care Switchboard, get the data. It will be very easy, then, to include that information in the draft environmental impact reports."

RESPONSE

The project site is located within the boundaries of the San Francisco Unified School District. There are approximately 59,100 students (k-12) within the District. The project is anticipated to generate a demand for 635 dwelling units within the City. Therefore, about 127 school age children could be generated by the project.[1] The school district could absorb the 117 students within its current facilities.[2]

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[1] This figure is based on the current City public school enrollment (59,100 students), the number of dwelling units (320,000 units), and a rate of 0.2 students per household.

[2] Robert Walker, Manager, Student Assignment Office, San Francisco Unified School District, telephone conversation 25, January 1982.

A need for more licensed child care facilities exists in San Francisco. It is estimated that there are in San Francisco 17,500 children under the age of 5 and 18,000 children between the ages of 5 and 9 who need day care and after-school supervision. There is, however, a total of only 12,000 spaces in licensed child care facilities.[1] As a service to residents of San Francisco, the San Francisco Unified School District provides childcare for 3,400 children at 37 different sites. The subsidized day care is funded and regulated by the State Office of Child Development. Parents eligible for this service must be residents of the City and 84% below the median state income, and either employed, in school, or handicapped. Priority for day care is through income.[2] The extent to which the proposed project would contribute to the demand for increased child care facilities is not known. Cumulative office growth could affect the need for more day care and after-school services.

Advocates of increased child care facilities would prefer to have major tenants and office building developers provide on-site child care facilities, sites for new centers and/or benefits to those working parents who must provide outside supervision for their children.[1]

COMMENT

Sue Hestor

> "I think it's time that you put in an EIR a reflection of the system capacity of our water system downtown. I'm concerned that maybe the EIR's have been really glossing over the ability of the city's sewage system and the ability of the city's water system to meet the demands. With all of that construction downtown, you are increasing the risk of accidental damage to the mains as well as you are increasing the risk that stresses, because of so many projects coming on, will cause collapse.

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[1] Lucille Abrahamson, Director, Mayor's Office on Child Care, telephone conversation, 28 December 1981.

[2] Ernestine Trejillo, Administrative Assistant, Children's Center Department, San Francisco Unified School District, telephone conversation, 28 December 1981.

"What are the possibilities in terms of increasing stresses that cause collapse of the water system and what does that mean downtown?

"And also what problems does that possibly create for the city's ability to deal with an earthquake. Because the most important system in an earthquake in San Francisco is a good water system for fire damage. And are we going to be able to put those kinds of stresses on the system and be able to deal with a massive fire."

RESPONSE

The following is added to EIR section IV.I., 4. Sewer, page 102:

"San Francisco's sewage system is adequate and capable of meeting the demands for service generated by cumulative office growth. San Francisco Clean Water Program is currently enlarging the capacity of treatment plants. The combined sewer system in the South of Market area is also being brought up to grade.[1]

The following is added to EIR section IV.I., 3. Water, page 102:

"The City of San Francisco annually consumes 80% of the amount of water consumed annually during the drought (1976).[2] The San Francisco Water District's existing facilities can supply 300 mgd, however the current demand is only for 254 mgd. Thus, the cumulative demands for water can be adequately met.

"While an increase in excavation activity would increase the opportunity for accidents, increased connections for highrises and the subsequent water demands do not affect the capability of the water system to supply water. Construction requiring large excavations of 30-40 feet, if not properly shored, may cause subsidence in streets. Depending on proximity to the excavation, utilities could then be damaged. Building contractors prepare surveys to determine if there is subsidence below the streets in order to reduce the possibility of damaging utilities during major excavation. Small breaks in mains take approximately 4 to 6 hours to repair.[2] The location of utilities are marked prior to construction.

"[1]Nat Lee, Sanitary Engineering, San Francisco Clean Water Program, telephone conversation, 15 January, 1982.

"[2]Gene Kelleher, General Manager and Chief Engineer, San Francisco Water Department, telephone conversation, 18 January, 1982."

"Domestic and fire fighting water are fed through separate low and high pressure mains. The high pressure mains also have an emergency system which pumps water from the bay and ocean for fire fighting purposes. Fire flow tests conducted for this project determined that the existing high pressure main was inadequate to serve the proposed project. Fire flow water demand does place stress on the ability of old high-pressure mains, or mains of inadequate size, to supply adequate amounts of water. Replacement cost of the mains are born by project developers. Thus, old inadequate fire fighting mains are replaced on a project-by-project basis. Upgrading of these high pressure mains reduces the potential of breakage during a very strong earthquake. However, pipes may break within buildings during earthquakes , thereby diminishing water pressure on the streets.[1]

"Domestic water pressure fluctuates with demand. Cumulative growth in the downtown necessitates more of a need to replace domestic mains. Pressure recordings of domestic mains are periodically conducted to determine the adequacy of water mains. The Water Department is responsible for the replacement of water mains in order to meet normal domestic water demands. This cost would be borne by the Water Department. It should also be noted that the physical weight of buildings does not impact the network of water or sewer mains.[1]"

[1] Gene Kelleher, General Manager and Chief Engineer, San Francisco Water Department, telephone conversation, 18 January, 1982."

COMMENT

Sue Hestor

"In terms of garbage, you always have just a little quotation from Sunset Scavenger Golden Gate Disposal that, we can pick up how many tons of garbage that is. You need to put in what the cumulative impacts are in terms of increased demand for land fill that isn't available, and for the trash burner which is a controversial project.

"What is the point where the city -- we're going to reach a point very shortly where we can't cope with our solid waste."

RESPONSE

On page 102 of the EIR, the following has been added to the text in line 1 of paragraph 3:

"It is projected that by 1984, San Francisco will have 62.4 million square feet of office space. Cumulative solid waste generated by downtown office buildings would then be 300 tons per day.[6] Of this amount, 40 to 60% is high grade paper and can be recylced. Local paper recyclers contract to office buildings to buy used white bond paper. In addition, approximately 50 tons of waste paper is recycled daily from the Financial District by an affiliate of Golden Gate Disposal Company.[6]

"Several recycling programs have begun in the City and two additional pilot programs will start up in the spring of 1982. These efforts would combine to reduce cumulative impacts on solid waste disposal sites. The City is also considering the construction of an energy recovery plant at the Tunnel Avenue transfer station which would recover about 50 to 60 tons of ferrous materials per day. The scavenger companies would continue to divert newspaper from the landfill or proposed recovery plant. A landfill site would be required during construction of the energy recovery plant, as well as to serve as the back up and for the anticipated 40% recovery plant residual. Future landfill sites under consideration are in Altamont, Vacaville, Oxnard Mountain and Mountain View.[7] The effect of cumulative development on solid waste disposal facilities cannot be determined until plans are finalized for disposal after expiration of the present landfill contract in 1983.[8]

COMMENT

Sue Hestor

"I would also like you to analyze, because it really did happen, we really did have a PCB spill, what are the implications of that kind of stress, of that kind of rupture, on the high pressure gas lines that we have downtown, and possibilities of contamination from PCB or God only knows what else is in there."

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[6]David Cohen, Special Projects, Chief Administrator's Office, City of San Francisco, telephone conversation, 14 January 1982.

[7]David Cohen, telephone conversation, 20 November 1981.

[8]San Francisco Department of City Planning, 101 Montgomery Street FEIR, EE80.26, certified 7 May 1981.

RESPONSE

Underground Service Alert (U.S.A.), a private firm supported by the utility agencies, marks the location of all underground services before construction activity begins at a site. Chances are minimal that lines will be ruptured if reasonable care is taken during construction.[1]

In addition to USA, PG&E marks the location of utilities at a site when application is made by a contractor in order to protect its own property.[2] Insurance companies in writing policies for construction companies make sure that the contractor knows where utilities are located before insuring for explosion or collapse of utilities.[3]

Increased excavation activity in an area increases the potential for pipe rupture. However, no generic risk analysis would be appropriate for San Francisco as the level of risk differs by location due to the difference in density of underground utilities i.e., the residential Sunset District vs. the Central Business District.[4] In areas where significant excavation will occur, PG&E may send a representative to observe activity to further reduce the probability of construction hazards affecting underground utilities.[5]

The following mitigation measure will be inserted on page 7 and page 118:

> "An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to insure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by building management before issuance by the Department of Public Works of final building permits."

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[1] Jerry Tyson, Marketing Representative, Pacific Gas & Electric, telephone conversation, 15 January 1982.

[2] David Gilbert, attorney, Hazards, PG&E, telephone conversation, 20 January 1982.

[3] Jerry Dodd, Underwriter, Fireman's Fund, telephone conversation, 15 January 1982.

[4] David Gilbert, op. cit.

[5] David Gilbert, op. cit., and letter, 22 January 1982.

I. ENERGY

COMMENT

Commissioner Bierman

"Page 104, because this report doesn't mention the need for nuclear energy, are we to presume that it won't be required?"

RESPONSE

On page 103 of the EIR the following text has been added: "Energy for the project would be supplied by Pacific Gas and Electric which obtains its power from oil, natural gas, coal, nuclear, hydroelectric and geothermal sources."

J. SEISMICITY

COMMENT

Sue Hestor

"With regard to seismicity, I think you need to have analysis of how the outside, how the cladding is going to be done. Is it going to be bolted on with stress bolts that release? Are the windows going to be stressed so that they release if there's a specifically high stress from an earthquake? What is the impact of the people below? I don't know, maybe there's even a whoosh effect if your windows go out, like in airplanes."

"Further, with regard to seismicity, this is a sensitive site, because I'm not sure how -- what the rating in terms of seismic stress is for the freeway right there. But the reports that have come out in the past couple years show freeway collapses in many places in the city, especially where there are access ramps.

"I think one of the things you need to look at, the impacts, the interface between this project and stresses on the freeway and stresses on the AC Transit system in a major seismic event, as it is sometimes called. Because it's right there. And it's going to have a different impact than if it wasn't right there."

RESPONSE

On page 109 of the EIR, it is stated that the structures would be designed to meet the seismic standards of the San Francisco Building Code (SFBC). Much of the SFBC Section 2314

was updated in 1975 after the 1971 San Fernando Earthquake experience in Los Angeles. The current section specifies, by formula, the amount of lateral seismic force which building elements must be designed to withstand.[1] The formula is based on the weight of panels, or the diameter of connections, and the amount of vibration which would occur in the panel or connection during a major earthquake[2] The result is a building designed to withstand an earthquake of at least Richter magnitude 7.0.

In contrast to high-rise buildings where exterior precast concrete panels serve only as a cladding or skin for the building, and are normally bolted or welded to the structural frame, this structure's exterior wall will be constructed of reinforced concrete panels which will become an integral part of the structural framework of the building. Cast-in-place concrete will be installed in horizontal beams at each floor and vertical columns installed to provide a composite structural frame incorporating the exterior wall panels. Since these panels are tied to the frame by cast-in-place concrete no bolted or welded connections will be used.[3]

The exterior concrete frame of the building will be designed as a ductile concrete moment-resisting frame in accordance with the latest techniques of seismic design. This will enable the building's exterior wall and structural frame to withstand a major earthquake (Richter Magnitude of 7.0 or more) without any major structural damage.[3]

There are no requirements in the San Francisco Building Code (SFBC) specifying the seismic response of window glass. Exterior windows are considered part of, or attachments

[1] SFBC, Section 2308.E and Table No. 23-E.

[2] SFBC, Section 2314.A.

[3] Information in this paragraph is based on information received from Curtis Meier, SE1216, of Robinson Meier Juilly Associates, Structural Engineers, San Francisco California, telephone conversation, 6 April 1982.

to a structure's exterior wall[1] and are required to resist lateral loads, primarily from wind pressure, of 30 pounds per square foot[2] in the 105-F Height & Bulk District.

With respect to the effect of a major earthquake on window glass, seismic codes require that non-structural elements, such as window and the attachments be designed to accommodate the distortions of the structural building frame. The intent of this code provision is to minimize the possibility of exterior elements breaking or falling in the event of a major seismic event.

Under seismically induced or wind-induced building motions some weakening of concrete panels would occur. The hazard would be greatest for a major earthquake (Richter magnitude greater than 7.0) of ten seconds or more which would induce building sway. Given sufficient swaying motion, some panels would be damaged causing chunks of concrete to fall to the street. The swaying could cause some glass panels to break loose and fall whole or in pieces. The falling debris would create a hazard to pedestrians and motorists on the sidewalks and streets and could cause injuries and death. Whole glass panels create an additional hazard beyond the immediate building site because they tend to "float" while falling, that is, glide horizontally from side to side like a falling leaf. Some panels might float away from the building for many tens of feet depending on wind conditions, and the size, shape and weight of the glass. Shatter glass would be used for some panels in the building as required by the Building Code for fire safety. Tempered glass would be used for most window panels.

Shatter glass breaks into small fragments; tempered glass breaks into shards of varying size including some large fragments with sharp edges. Tempered glass, which has a high rigidity given by the heat used in its fabrication, has the best probability of staying in the glazing pockets, i.e., the slots where the glass fits in window frames.

Other than making a large scale test model, for which there is currently no equipment available, there is probably no way to predict exactly how any given structure or element

[1] SFBC, Section 2314.D.2.

[2] SFBC, Sections 2314.C., D-1. and Table No. 23-1.

would respond during a specific seismic event. There is no SFBC requirement for this type of test.[1]

The National Oceanic and Atmospheric Environment Study of 1972 indicated that the trans-bay bridges would not collapse during a great earthquake (Richter magnitude greater than 8.0) but would probably be closed while engineers checked them for structural damage.

There is also a possibility (percentage unspecified) that liquefaction could occur in some of the access ramp areas causing settlement damage to bridge approaches. The trans-bay ferry system would be used to bring emergency personnel into the City and could be used to evacuate casualties, but the majority of the commuter population would probably have to remain in the City for 72 to 96 hours following a great earthquake. Because the highway overpasses in the City have been retrofitted to resist seismic damage most of the freeway system is expected to be in operation after such an earthquake. The reader is directed to the Mayor's Office of Emergency Services for further information.[2]

The proposed structure's foundation would rest directly on sound bedrock (see page 120 of the EIR) and would not touch the freeway or the freeway foundations. There would be no effect which the structure would have on the seismic response of the freeway. The proposed structure could be damaged if sufficient groundshaking occurred causing material from the freeway to fall more than 20 feet west of the freeway. The Embarcadero Freeway has been retrofitted consistent with state-of-the-art seismic design to prevent immediate collapse during future earthquakes. A major earthquake could damage the freeway causing pieces of concrete to fall to the street.[1] Falling debris would create a hazard to pedestrians and motorists and could cause injuries or death. Commuter occupants of the building might have to remain in the City during the engineering inspection of freeway and the trans-bay bridges after an earthquake.

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[1] Information in this paragraph comes from Tom Jenkin, Facility Planner/Architect, Mayor's Office of Emergency Services, telephone conversation, December 28, 1981.

[2] SFBC, Section 2314.K.5 (a) through (g).

K. HISTORICAL AND CULTURAL RESOURCES

COMMENT

Rob Edwards, Society for California Archaeology, letter of 25 September 1981

> "In order to carry out the recommended mitigation on page 119, which allows an inordinately short period of time (1 week) for inspection, recommendations, and retrieval of any cultural resources to occur, I feel it would be necessary to have a qualified archaeological monitor present during any demolition or grading activities.
>
> "A more cost effective mitigation measure would be to have a qualified archaeologist conduct a historical investigation of the property and a cultural resources survey prior to permit approval. In this way, the archaeologist could suggest mitigation measures before construction is underway (if such measures are necessary) and thus minimize the risk of construction shutdown, which could be very costly to the developers."

Arlyn Golder, letter of 24 November 1981

> "We would like to note an apparent oversight or error in the draft EIR on page 119. The EIR states that the records search conducted for this EIR revealed no archaeological or historically significant activities. This is not what the search we did for this project revealed. Our search revealed (that) the area of the project has not been surveyed in the past. There is a prehistoric site within ¼ mile and a possible site has been reported also within ¼ mile. We recommend that an historical background search and survey be done on the lot as part of the EIR process.
>
> "This means that no one has ever checked the project area for cultural resources and that the project area is archaeologically sensitive and should be checked for resources <u>before</u> construction begins. It is exactly this checking ahead of time that can save much time and money because the project sponsor can avoid shutdowns later, having found out ahead of time what may or may not be present on the project area."

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[1] Mr. E.F. Van Zee, Caltrans, Engineering Liaison Officer to Highway Districts, telephone conversation, 31 March 1982.

RESPONSE

The information stated in Arlyn Golder's Comment was included in the EIR on page 50. However, a finding within ¼ mile of the site is not enough evidence to suggest that the odds of a find here warrants a pre-construction search. There may, in fact, be no site within the San Francisco Central Business District where there has not been a find within ¼ mile. The mitigation measure adopted assumes that the sponsor has accepted the risk of implementing the more time-consuming measure.

The first line, third paragraph, page 119, is changed to read:

"If historical or archaeological resources are discovered..."

L. SPONSOR'S OBJECTIVES

COMMENT

Commissioner Bierman

"Page 10. There's a discussion about objectives of project sponsor and a long paragraph about having to be on one floor. And it seems to be written as though it is true that lots of tenants have to be on one floor.

"There are so many buildings in the city where tenants are on several floors, and buildings where a business, a corporation has the whole building. And it seems to be a bad precedent to have this whole paragraph of need about one floor. I don't know whether there's some way to put language in that says it's just his opinion. But to me it's a bad precedent."

Chairman Rosenblatt

"The last sentence (page 10) indicates the office space will be competitively priced within the region to aim at the -- what I believe is called the bulk tenant. There is a reference in the footnote to current rents which are at executive office space levels. Could we have a figure on what is expected for this project to document that objective?"

RESPONSE

The project architects have responded to the sponsor's objective to design large and efficient floor space which would be suitable for a single tenant's use. Examples of the type of functions that would require large floor space would be data processing centers, utility operations or banking and finance service industries.

San Francisco has many firms headquartered in the downtown Financial District. These firms often employ large numbers of people in clerical, computer, accounting, billing, and similar supportive functions. As a group, these people are referred to as the "secondary" workforce.

The sponsor believes that the type of space desired for secondary offices is characterized by large, unobstructed floor areas (20,000 - 40,000 square feet per floor) which permit a single operating department (such as data processing or accounting) to occupy a single level and develop internal organizational patterns which are more efficient than operations which are located on different floors or in different buildings.

The decision made by a business firm concerning where to locate its "secondary" workforce is determined principally by factors related to the cost of doing business. One such factor is the cost of providing space for the "secondary" workforce. The cost of providing work space for a clerical employee is $3,000-$4,000 dollars more in San Francisco than in the Eastbay.[1]

The secondary workforce, and the facilities in which it is housed, represent an overhead, or operating cost to a firm. These headquarter firms prefer to locate their "secondary" workforce in an area where cost savings can be realized with lower rents.

The project sponsor is aware of firms recently moving out of San Francisco into the eastbay and suburban locations, and of other firms which are considering such a move. Therefore, the objective of the sponsor has been to design a building with ample floor areas suitable for the "secondary" workforce type function. Examples of the type of functions requiring such space would be data processing centers, accounting operations or

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[1] J. Gary Shansby, Chief Executive Officer, Shaklee Corporation, Annual Meeting of San Francisco Chamber of Commerce, 25 February 1982.

banking and finance service industries. The purpose of designing a building with large floor space is to enable firms to locate their support operations in close proximity to the headquarter firms which are located in the downtown area, but in facilities reflecting rental rates lower than those found in the Financial District. This project will provide firms an opportunity to consolidate or expand their operations as needed and remain in San Francisco.

The second sentence, second paragraph on page 10 of the EIR is changed to read:

"The project sponsor believes that many San Francisco corporations..."

Based on current project costs the rental rates could be from $25 to $35 per square foot. The rental rates would be set when the cost of the project is known. Project costs would depend on time of start and completion of construction. The amount of the rent would depend on the existing market rates at the time of occupancy and on the specific negotiations with each respective tenant.

M. ALTERNATIVE DESIGNS

COMMENT

Chairman Rosenblatt

"The language with respect to Alternative D or at other places noted as Alternative 4, would suggest that, in fact, that is the proposal at this point.

"Page A71 and thereafter the Draft EIR should be revised in its summary and elsewhere when you get to the comments and responses to reflect their changes."

RESPONSE

At the 17 December 1981 Public Hearing, Mr. Rolf Wheeler, representing the project sponsor, stated in response to whether Alternative 4 is the proposal:

"Yes, that's currently the design proposal . . . We developed that in response to Commission and staff input after the first design was submitted, and that is our preference currently, yes."

The first sentence, fifth paragraph on page 8 of the EIR is changed to read:

> "Because the project could be bulkier than the existing low-rise structures in the area, the project sponsor has adopted an alternative design ("Study 4") that attempts to reduce the visual impact of the project."

The first and second paragraphs on page 141 of the EIR are combined and changed to read:

> "The project described in Section II.C., page 14, would be bulkier than the existing low-rise structures in the area. The project sponsor and its architect have continued additional architectural design studies in order to reduce the potential impacts of building form and massing. Based on these studies[1], building design Study 4 has been adopted as the currently proposed design. Specific design and modification..."

The fourth paragraph on page 147 of the EIR is deleted.

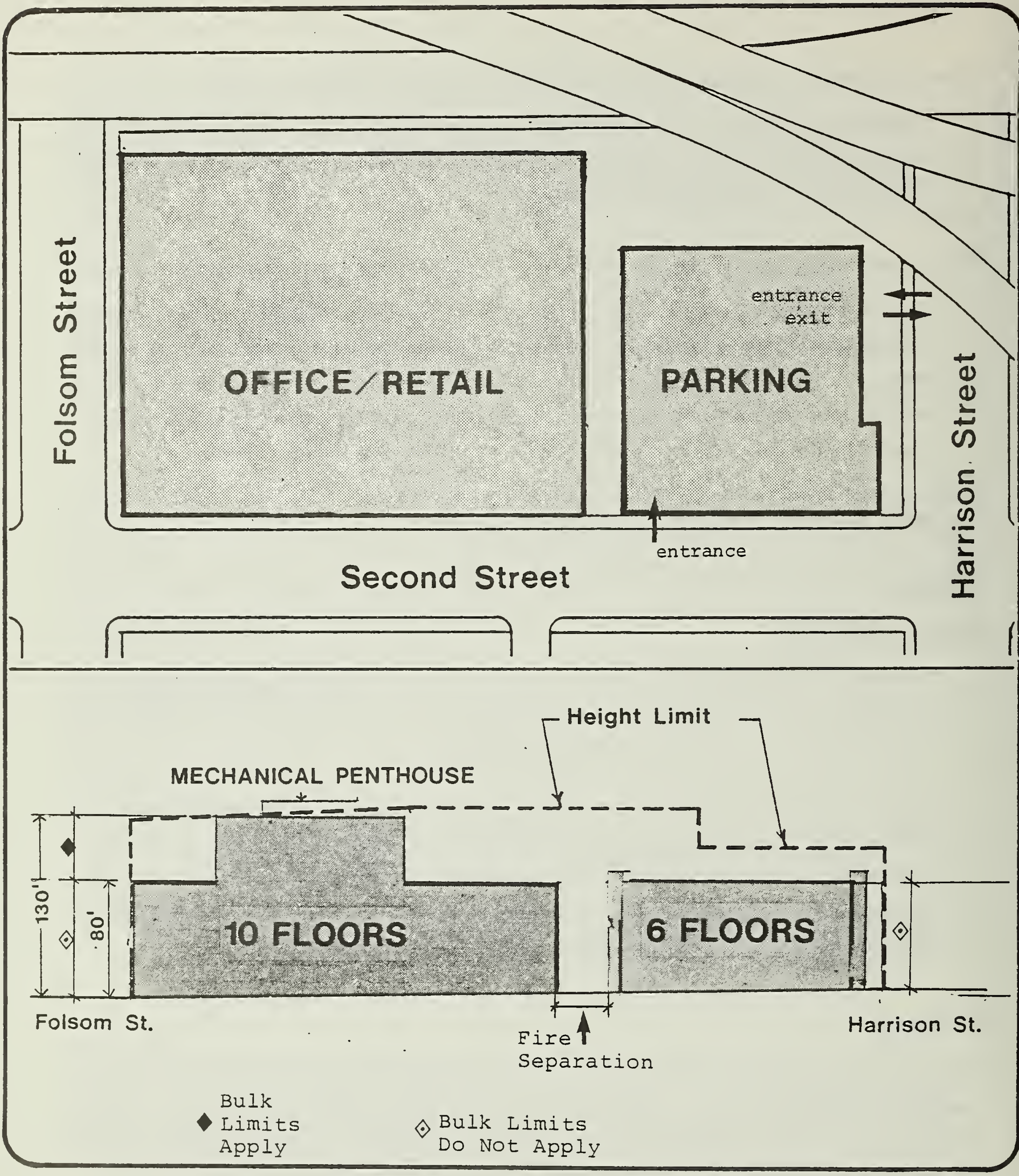
COMMENT

Chairman Rosenblatt

> "On page 152, the discussion of the project which would meet the planning code, the conclusion in order to meet the height and bulk and parking regulations means that the maximum that could be built is an FAR of 3.5 to 1.
>
> "I'd like our staff people to analyze that. The see whether that 3.5 to 1 is the result of the particular configuration that the project sponsor chose to use to answer that alternative. And, therefore, it has to -- it results in substantially below a 5 to 1, or whether, in fact, there isn't a combination of meeting the height, bulk, and parking which would still allow the 5 to 1 or something closer thereto."

RESPONSE

The method of calculating the gross square feet of proposed use is based on the amount of available, usable land, the maximum floor area permitted, the ratio of parking requirements to office building size and the height and bulk restrictions of the district. For an office building of 516,500 square feet, 909 parking spaces are required. Figure 48, page 153 of the EIR illustrates a concept which maximizes the design within the required building code height and bulk restrictions and provides on-site, above-grade parking in relation to the building size. (This figure is revised to show additional floor area and bulk limits.)



Office/Retail Alternative Project Complying with Planning Code

Source: Bolles Associates

OFFICE/RETAIL: 516,500 sq. ft.
PARKING: 909 spaces
FAR: 3.58:1

Figure No. 48

To achieve a 5:1 FAR using this alternative approach would require that most of the parking facilities be constructed underground. The cost of doing so is described in the preceding discussion addressing Transportation (parking), page 49.

A concept which would provide maximum office space and parking (to code requirements) would make it more difficult meet the objectives of the City's design policies and Planning Code to provide public open space, height and bulk in scale to surrounding structures or design features which meet the human scale.

The tabulation on page 152 of the EIR is changed as follows:

"491,500 gross square feet office
25,000 gross square feet retail
516,500 gross square feet total

3.58 : 1 FAR

909 parking spaces"

Figure 49, page 155 of the EIR is changed to show the revised shadow added by this alternative.

"On page 154, fourth paragraph of the EIR "34%" is changed to "32%".

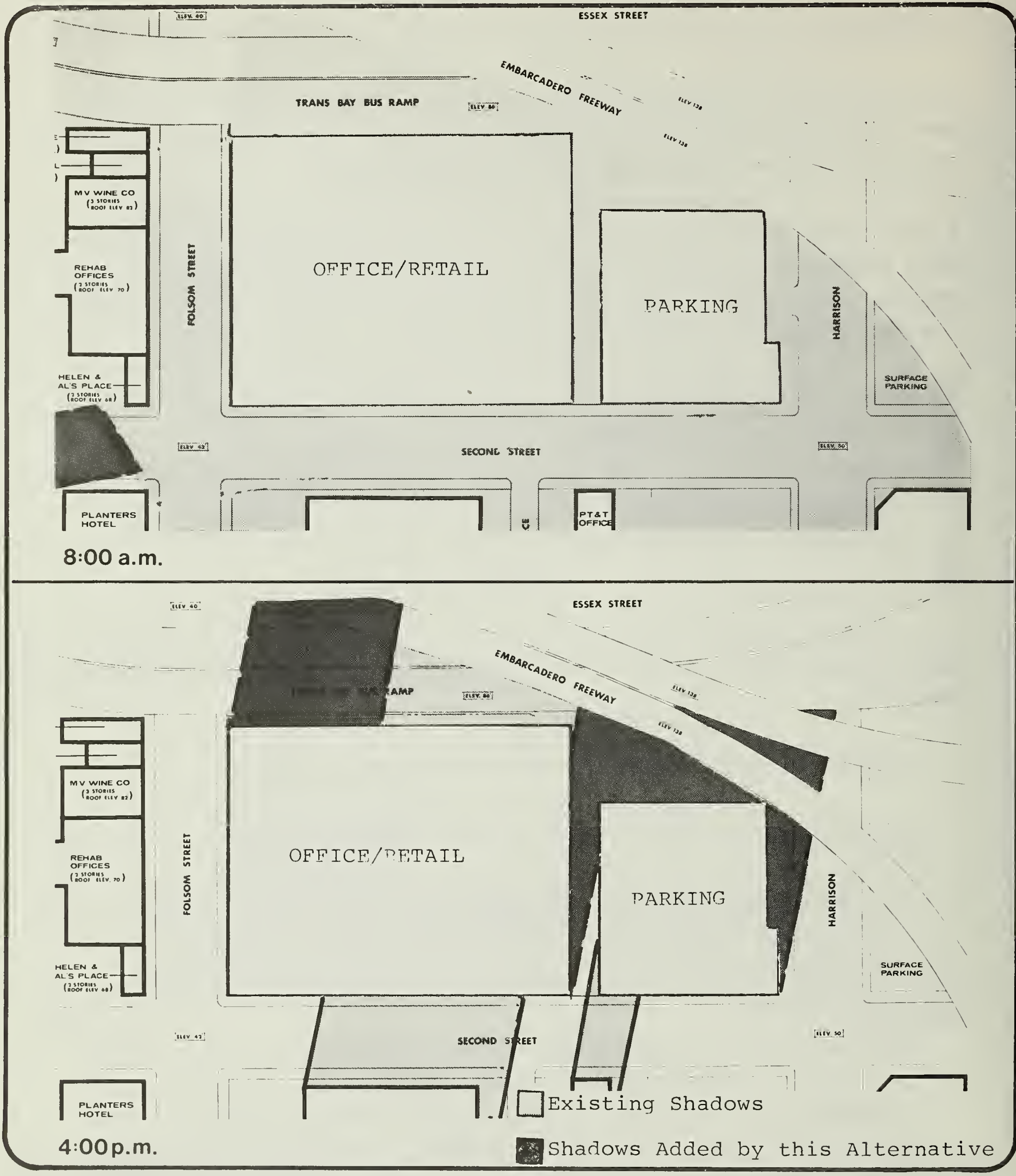
"On page 9, second line of the EIR, "1,226" is changed to "909".

"On page 9, third line of the EIR, "34%" is changed to "32%".

COMMENT

Commissioner Bierman

"I'm hoping (the new preferred alternative) will progress even further as to what will fit in with that neighborhood. Not the neighborhood as it is today, but the neighborhood as it is going to be. With particular attention to possibility of the removal of the freeway and particular attention to its being a housing resource neighborhood, not just an office building neighborhood. And that we prepare ahead of time for what it's going to look like, and great attention given to that, because I think this is one of the -- going to be one of the special and one of the busy areas of the city."



Office/Retail Alternative Project Complying with Planning Code

December 21-Shadow Pattern

Figure No.49

RESPONSE

The proposed project concept's relationship to the surrounding landforms and structures, including the existing freeway and bus ramps, adjacent buildings and Rincon Hill has been discussed on page 60 of the EIR. This portion of the freeway is not planned to be torn down.

COMMENT

Paul Hughes, Caltrans District 04 letter of 29 December 1981

"The EIR does not provide sufficient information on traffic development and analysis for project alternative proposals."

RESPONSE

A number of potential project alternatives are discussed on pages 122-157 of the EIR. These alternatives are not under active consideration and are therefore generally outlined. Within this context, the transportation analyses provide a basic evaluation of the relative impacts attributed to each alternative.

COMMENT

Walter Gruenwald, letter of 18 December 1981

"I express great concern about a construction period of 4 years, or 2 - 2 year periods.

I own and operate a 6-Flat Romeo-Style building at 568 Folsom Street, San Francisco, across the street from the Project Area and the only Residential building in the blocks surrounding same.

"There exists a great pollution and parking problem at this location. A construction period, as mentioned above would aggravate the situation (more noise, vibration, dust, petro-chemicals, etc.) to a point where I would hardly be able to operate my building.

"I therefore request that the construction period in the subject Environmental Impact Report be reduced to a small fraction of time requested by the Developers."

RESPONSE

Construction of each of the two phases of the phased Project Alternative would take approximately two years. About one-half of this time (i.e. one year for each phase) would involve site preparation and structural construction. After this initial work, the remaining construction activities would be on the inside of the buildings which would lessen the impacts described in the comment.

N. INITIAL STUDY

COMMENT

Sue Hestor

> "One of the things that disturbs me is that although I submitted comments in response to the draft initial study, the little chart in here that those responses and how they dealt with the comments of me, and I think two other people, shows that people didn't understand the scope of my comments. And I would like to, again, put into the record by reference, because the staff already has it, both my specific comments on this project and what I also incorporated in that which was my 'generic comments' which the staff has. Maybe the staff hasn't circulated them to all of the people who do these studies. But I submitted generic comments dealing with seismicity at a much more sophisticated level and a broader term than I got any response in this EIR."

RESPONSE

The Department of City Planning has taken those generic comments into account and accordingly incorporated into this and other EIRs discussions thought to be appropriate in response to them. Without indications of what specific points from the generic comments are thought to be inadequately covered here, a more specific response cannot be provided.

III. STAFF INITIATED TEXT AMENDMENTS

A. PROJECT DESCRIPTION

The project design has been revised to provide 358 parking spaces on-site. The following changes in the Summary, Project Description, Transportation Impacts, and Mitigation Sections, are made to reflect this design change:

Page 2, first paragraph, second sentence, "Three hundred" is changed to read "Three hundred fifty-eight".

The third sentence, fourth paragraph, page 4 is changed to read:

> "The proposed project would provide 358 parking spaces, leaving a deficit of approximately 430 to 840 spaces."

In the last sentence of paragraph 4, page 6 of the EIR, "500 to 700 spaces" is changed to read "230 to 690 spaces".

In the second sentence of paragraph 4, page 14 of the EIR, "Three hundred" is changed to read "Three hundred fifty-eight".

In line 5 of paragraph 3, page 27 of the EIR, "300" is changed to read "358".

In the fourth sentence of paragraph 3, page 77 of the EIR, "300" is changed to read "358" and "895" is changed to read "838".

In the last sentence of paragraph 1, page 116 of the EIR, "500 to 745 spaces" is changed to read "230 to 690 spaces".

Footnote 1 on page 116 of the EIR is changed to read:

[1] 786-1,196	spaces (demand: Section IV.E.4, page 77)
(358)	spaces (provided: Section II.C, page 33)
428-838	spaces
(200-150)	spaces (equivalent mitigation: Section V.C., page 114)
228-688	spaces (deficit)

B. LAND USE

Typographical error on scale to Figure 3, page 13, is changed from "10" to "40".

Typographical error on page 28, line 4 is corrected to read "M-1".

Page 54, paragraph 4 will be amended to state that conditional use approval would be required for the increased FAR.

Typographical error on page 54, line 6 is corrected to read "M-1".

C. VISUAL QUALITY AND URBAN DESIGN

Figure 26, page 62, is corrected to refer the reader to Figure 17 for photograph orientation.

D. TRANSPORTATION IMPACT

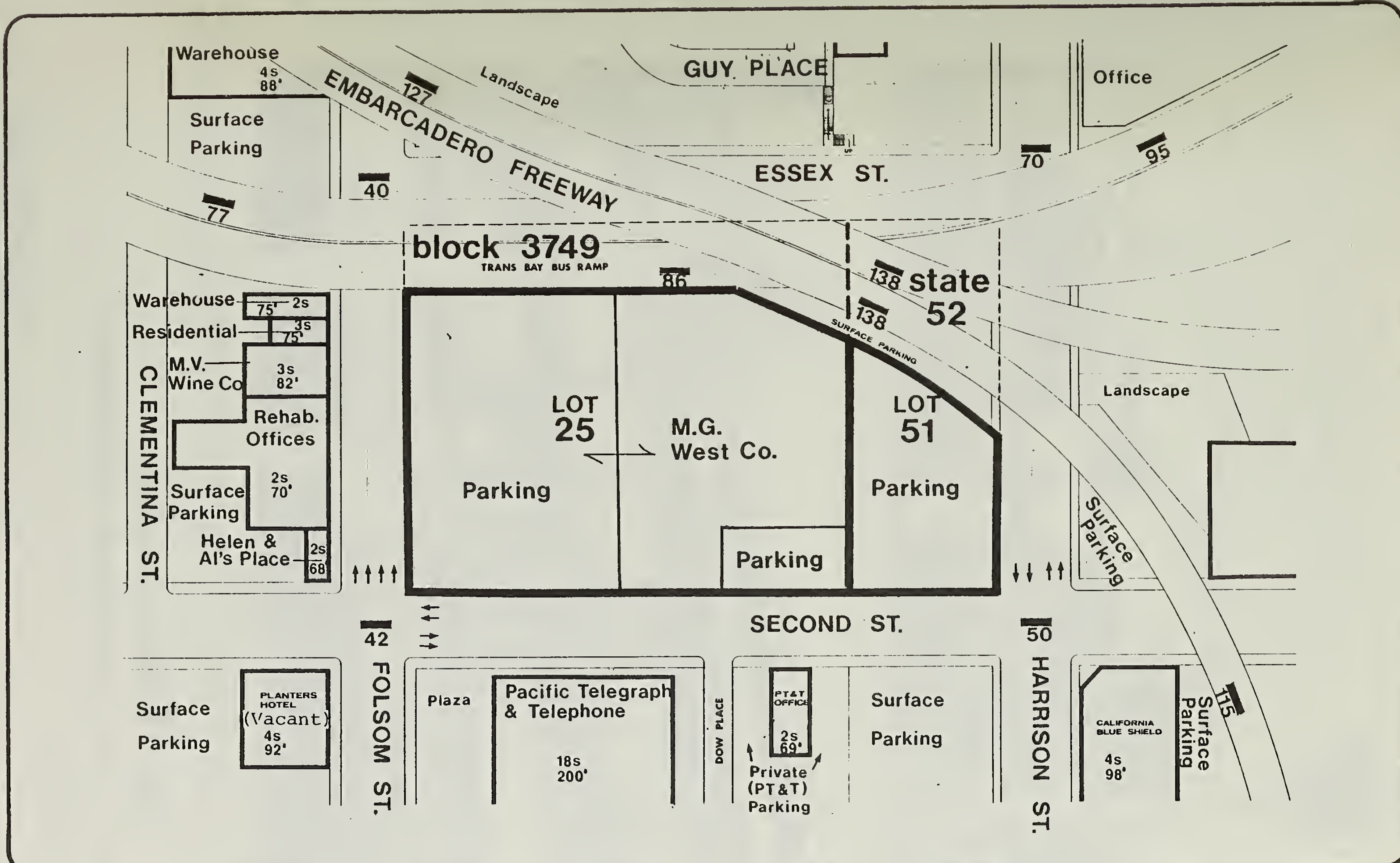
Table 13, page 78 of the EIR, is corrected to show that the off-street parking calculations are based on "Net" square feet instead of "Gross" square feet.

E. TRANSPORTATION MITIGATION

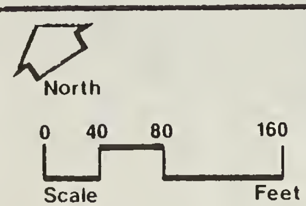
Page 4, paragraph 4, last sentence, "would" is changed to "could".

Information on page 116 is amended to correctly show a code requirement at 1,196 spaces:

The following is added as a new fourth paragraph on page 6, and as a new second paragraph on page 117 of the EIR:



Land Use Map



Lot
25 Lot Number
42 Elevation in Feet
18s Number of Stories
200 Roof Elevation

Figure No. 3

A View from Rincon Hill toward proposed structure.
View would be blocked by buildings on Rincon Hill.

B View From Foot of Rincon Hill

Project Area Photographs

See Figure 17 for photograph orientation

▨ Proposed Buildings

Figure No. 26

"The project sponsor would cooperate with other South of Market developers in studying cumulative transit impacts and in developing solutions for South of Market transit impacts resulting from cumulative development in the area. The project sponsor would participate in the solution(s) developed from the study."

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SAN FRANCISCO

CITY PLANNING COMMISSION

RESOLUTION NO. 9376

WHEREAS, A draft environmental impact report, dated November 13, 1981, has been prepared by the Department of City Planning in connection with EE81.18, Marathon Office Project: Construct office complex with 2 buildings, 300 parking spaces and a combined total of 754,000 square feet. One building would be 12 stories with, 403,000 square feet and the other would be 11 stories with 351,000 square feet. The project would require a variance for off-street parking and a Planned Unit Development to permit the buildings to exceed bulk limitations. Beneficiaries would be Marathon Development Corporation on the property described as follows:

Northeast corner of Second and Folsom Streets;
Assessor's Block 3749, Lots 25 and 51;

WHEREAS, The Department duly filed a notice of completion of the draft report with the Secretary of the California Resources Agency, gave other notice requested comments as required by law, made the report available to the general public and satisfied other procedural requirements; and

WHEREAS, The City Planning Commission held a duly advertised public hearing on said draft environmental impact report on December 17, 1981, at which opportunity was given for public participation and comments; and

WHEREAS, A final environmental impact report, dated April 22, 1982, has been prepared by the Department, based upon the draft environmental impact report, any consultations and comments received during the review process, any additional information that became available, and a response to any comments that raised significant points concerning effects on the environment, all as required by law; and

WHEREAS, On April 22, 1982, the Commission reviewed the final environmental impact report, and found that the contents of said report and the procedures through which it was prepared, publicized and reviewed comply with the provisions of the California Environmental Quality Act, the Guidelines of the Secretary for Resources and San Francisco requirements;

THEREFORE BE IT RESOLvED, That the City Planning Commission does hereby find that the Final Environmental Impact Report, dated April 22, 1982concerning EE81.18 Marathon Office Project is adequate, accurate and objective, and does hereby CERTIFY THE COMPLETION of said Report in compliance with the California Environmental Quality Act and the State Guidelines:

AND BE IT FURTHER RESOLVED, That the Commission in certifying the completion of said Report does hereby find that the project as proposed will have a significant effect on the environment.

The proposal will cause an increase in parking demand and create a specific demand for housing from the project itself, and will contribute to the cumulative increase in transit ridership, pedestrian and vehicular traffic, and parking demand.

I hereby certify that the foregoing Resolution was ADOPTED by the City Planning Commission at its regular meeting of April 22, 1982.

Lee Woods, Jr.
Secretary

AYES: Commissioners Karasick, Kelleher, Klein, Nakashima, Rosenblatt, Salazar.

NOES: Commissioner Bierman.

ABSENT: None.

Passed: April 22, 1982

DEPARTMENT OF CITY PLANNING 100 LARKIN STREET · SAN FRANCISCO, CALIFORNIA 94102
(415) 552-1134

NOTICE THAT AN
ENVIRONMENTAL IMPACT REPORT
IS DETERMINED TO BE REQUIRED

Date of this Notice: June 12, 1981

Lead Agency: City and County of San Francisco, Department of City Planning
100 Larkin Street, San Francisco, CA. 94102

Agency Contact Person: Paul Rosetter Tel: (415) 552-1134

Project Title: Marathon Office Development

Project Sponsor: Marathon Development California, Inc.

Project Contact Person: Bill Donald, Bolles Associates

Project Address: 2nd and Folsom Streets

Assessor's Block(s) and Lot(s): 3749/51 & 52

City and County: San Francisco

Project Description: Construct an office complex with a total of 754,000 gross square feet in a 12-story building and an 11-story building with 300-car parking garage requiring a Conditional Use authorization (CU81.5).

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15081 (Determining Significant Effect), 15082 (Mandatory Findings of Significance) and 15084 (Decision to Prepare an EIR), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: June 22, 1981.

An appeal requires 1) a letter specifying the grounds for the appeal, and 2) a $25.00 filing fee.

Alec S. Bash, Environmental Review Officer

FINAL INITIAL STUDY

MARATHON DEVELOPMENT CALIFORNIA, INC.

SECOND AND FOLSOM PROJECT

12 June, 1981

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FINAL INITIAL STUDY
MARATHON DEVELOPMENT CALIFORNIA, INC.
SECOND AND FOLSOM PROJECT

I. PROJECT DESCRIPTION

A. LOCATION

The Second and Folsom Project would be located within the City and County of San Francisco, California (see Figure 1).

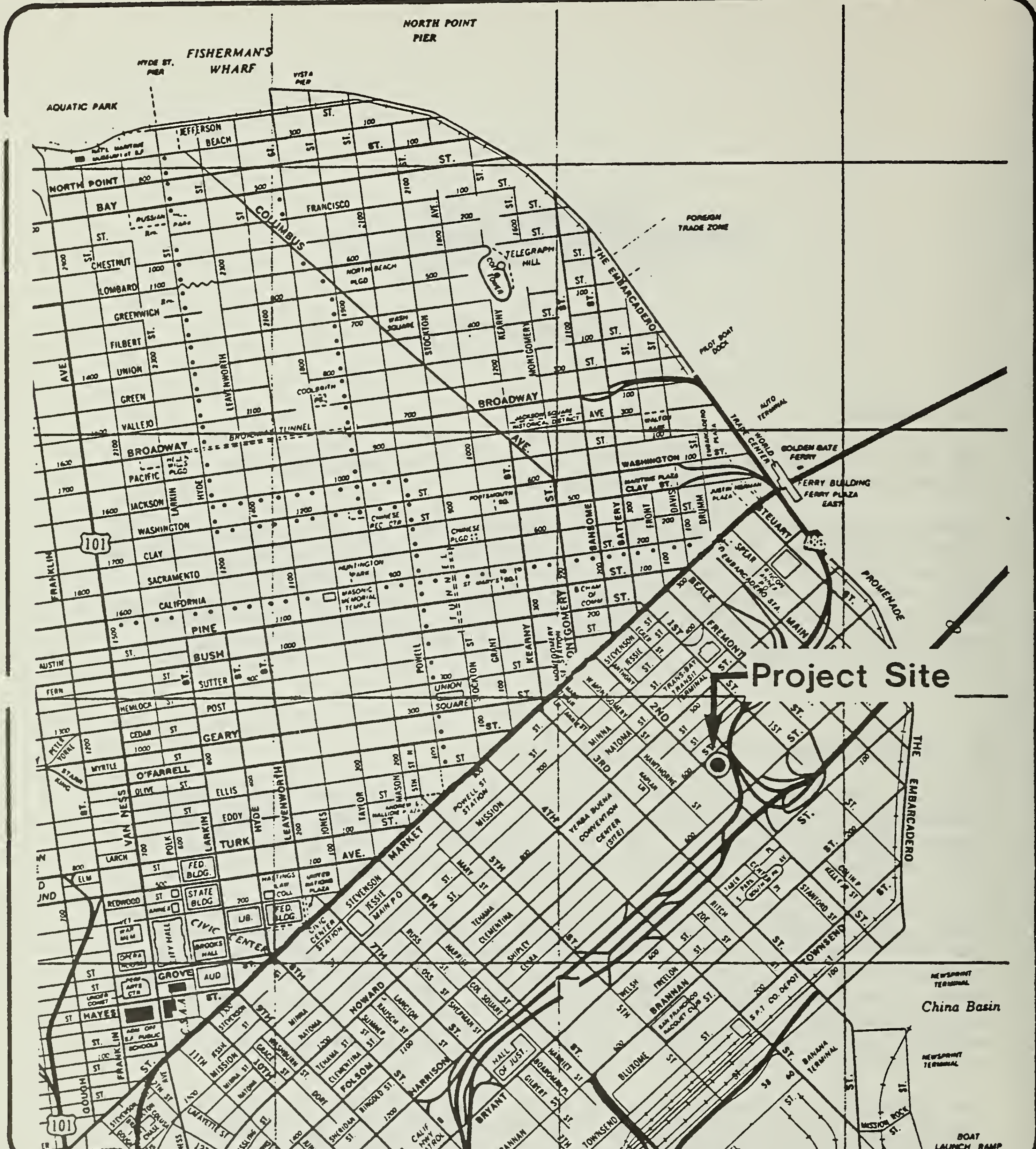
Marathon Development California, Inc. proposes to construct an office complex on part of Assessor's Block 3749, Lots 25 and 51, bounded generally by Second, Folsom, Essex, and Harrison Streets (see Figure 2). The proposed project would consist of two mid-rise office buildings on a 3.132 acre (136,430 square feet) site. The northern-most building (Building A) would be located entirely on lot 25, while the second building (Building B) would be located partly on lot 25 and partly on lot 51.

B. PROJECT DESCRIPTION (see Figures 3-8)

Building A would be a 12-story structure with a gross floor area of 403,342 square feet. Building B would be an 11-story structure with a gross floor area of 351,042 square feet. The two buildings would have a combined gross floor area of 754,384 square feet and an FAR of 5.5 to 1.

The proposed project would have approximately 591,950 square feet of occupied floor area including 26,240 square feet of ground floor commercial space and 565,710 square feet of office space. Ground level commercial space would include small retail shops and/or offices such as a drug store, travel agency, bank, flower shop, jewelry store, shoe repair, title insurance company, restaurant, clothing boutique, or book store. Floors above the ground level would be devoted exclusively to office use. Mechanical equipment would occupy about one-half the floor area on the top floor of each building.

The proposed office complex would face onto a large, central courtyard located between the two buildings with two smaller plazas located on the corners of Folsom and Harrison Streets. A four story glass-enclosed atrium would serve as the central lobby area for the office complex. Walkways through the atrium would connect the two buildings at levels 1 through 3. Off-street parking and loading for the proposed project would be located behind both office buildings adjacent to the Bay Bridge bus ramps and elevated freeway. Three hundred parking spaces, 4 large truck loading areas (16 feet x 35 feet each), and 4 van loading areas (8 feet x 20 feet each) will be provided.



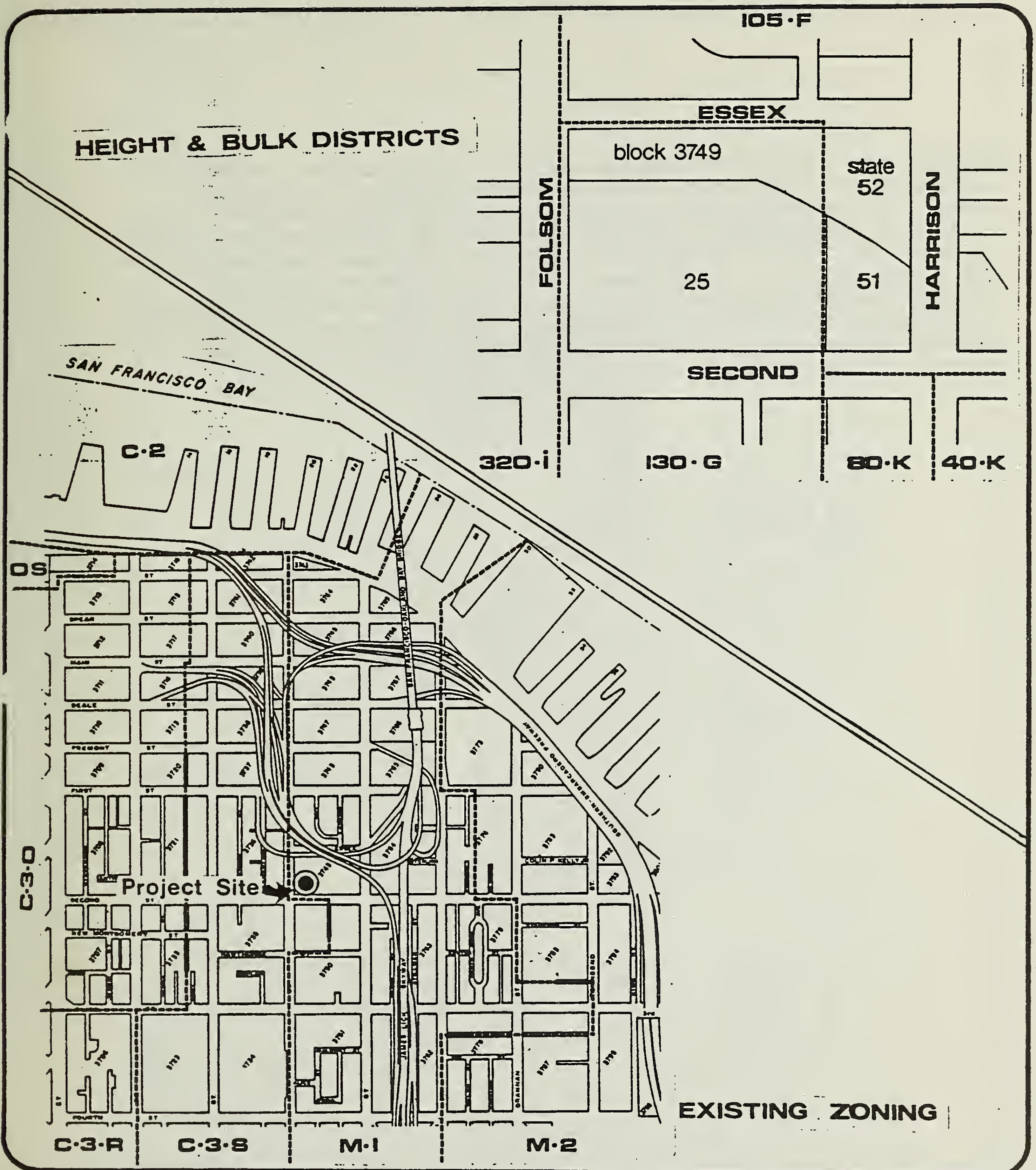
Site Location Map

North

0 500 1000 2000

Scale Feet

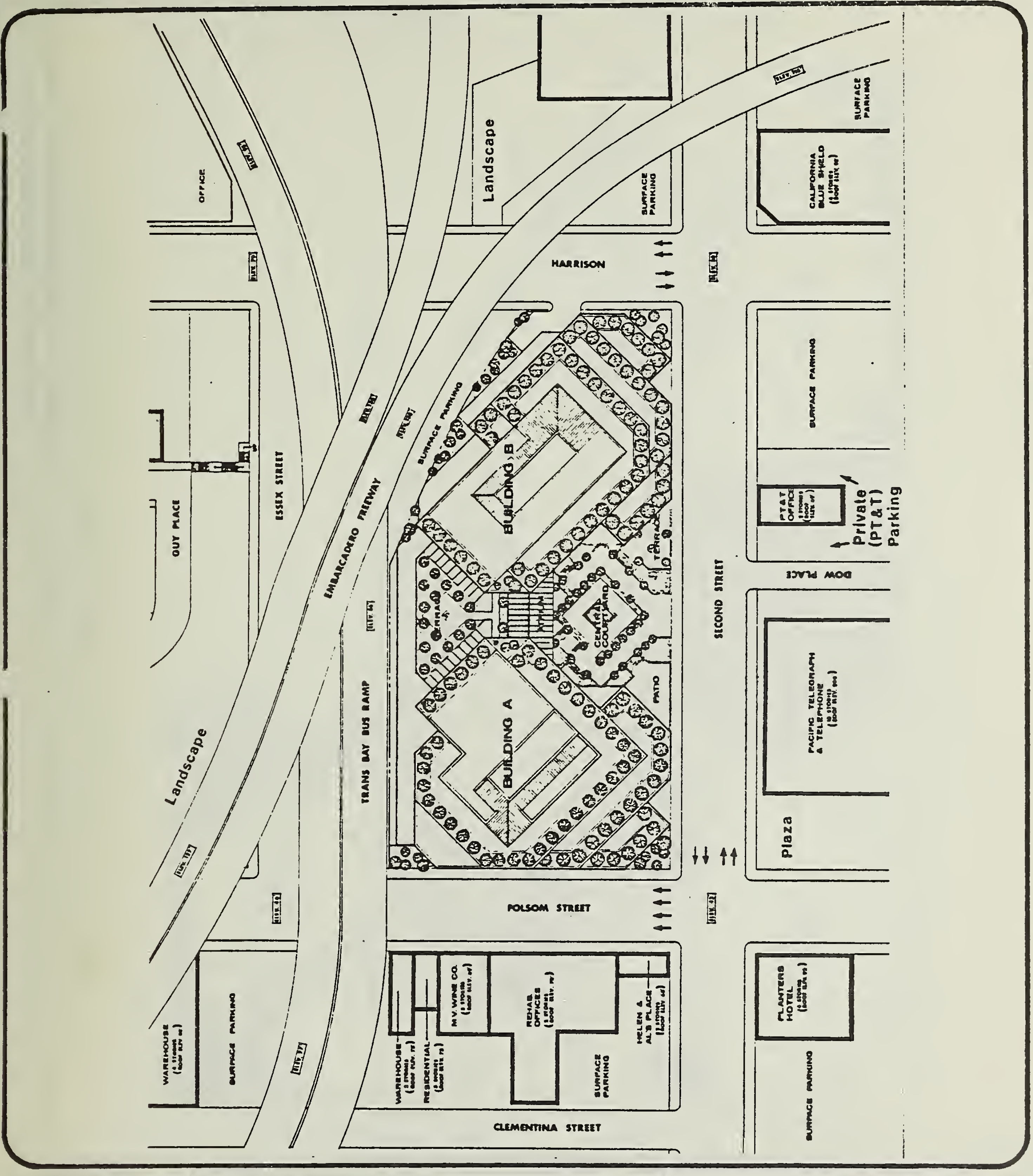
Figure No.1



Zoning Data

Figure No. 2

Existing land uses in the immediate vicinity (1 block radius, see Figure 3) include several large office buildings that are similar in height and scale to the proposed project. The PT&T Office Building at 636 Folsom is a 12-story structure with a gross floor area of 429,000 square feet. Other large office buildings include the 12-story PT&T Equipment Building opposite the project site, the 8-story General Electric Buildng on Hawthorne, a 7-story office building at 633 Folsom, and the 5-story United California Bank Operations Center at Folsom and Hawthorne. The project site is bounded on the east by the elevated freeway ramps to the Bay Bridge and the James Lick Freeway. These structures reach an approximate height of 86 feet.



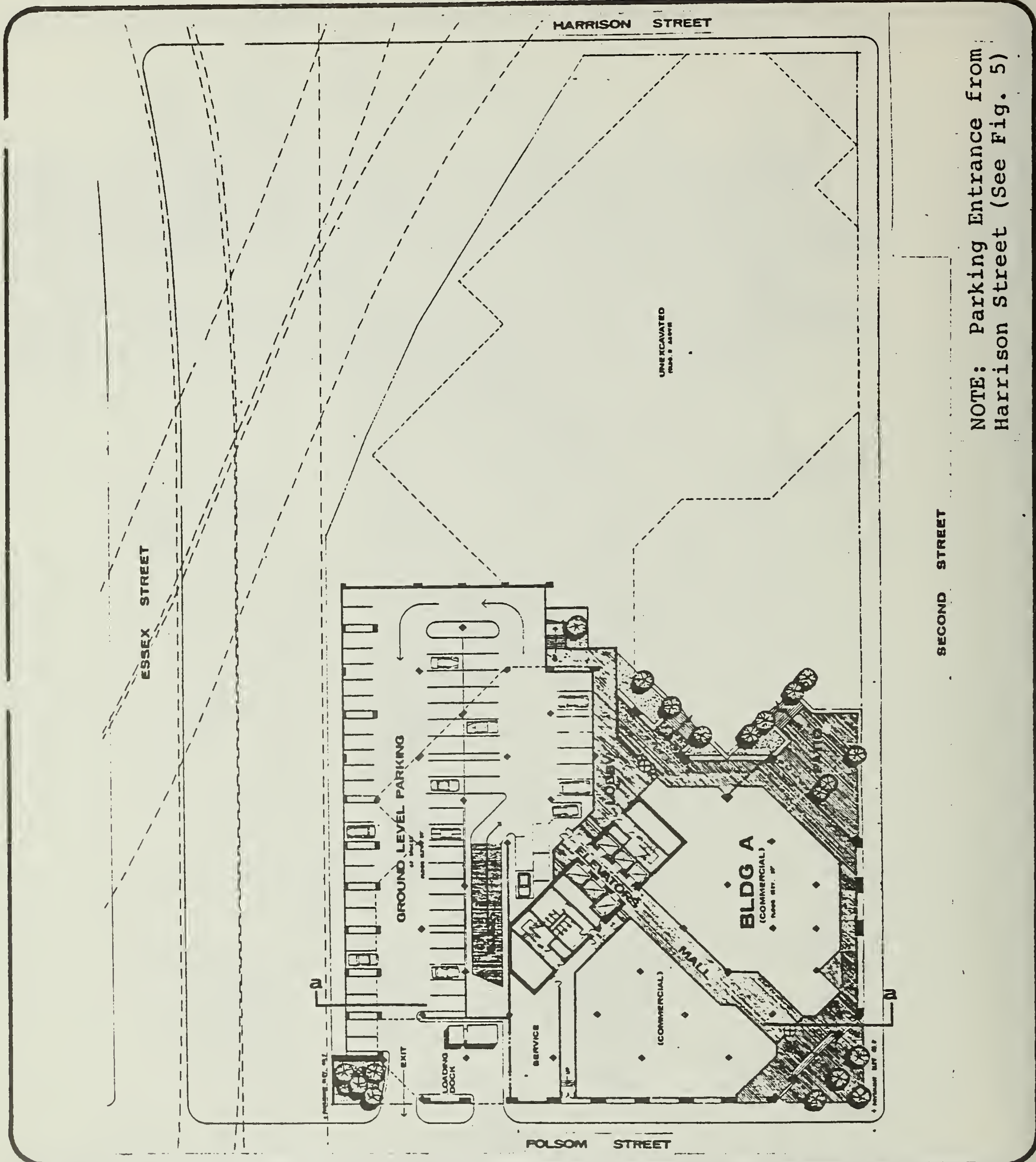
Land Use Map

North

0 40 80 160

Scale Feet

Figure No. 3



Ground Floor Plan

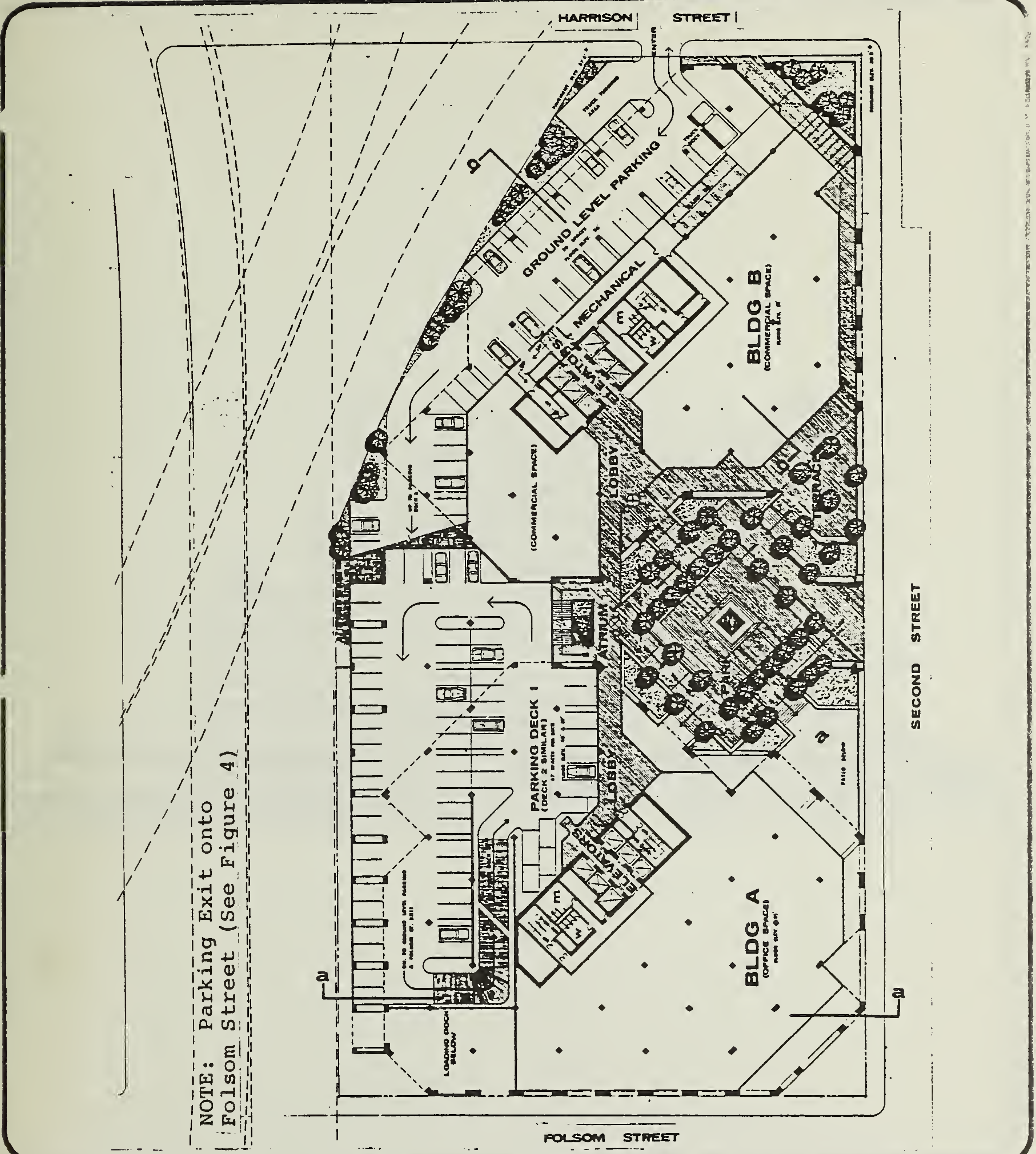
Note: For Section a-a see Figure 6

North

0 40 80 160

Scale Feet

Figure No. 4



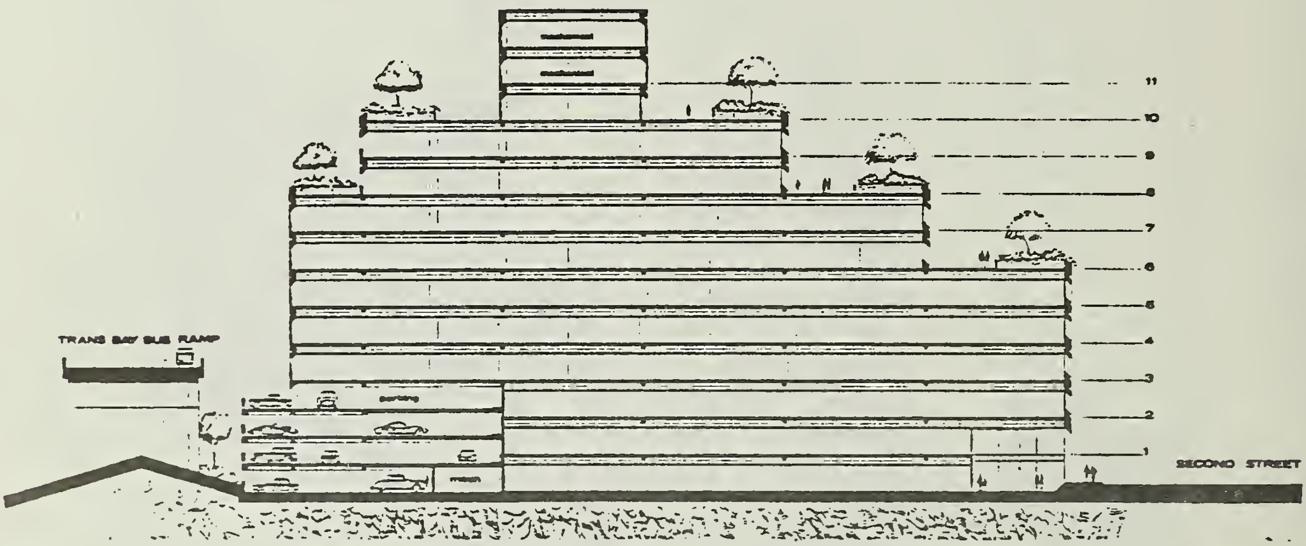
First Floor Plan

Note: For Section b-b see Figure 7

North

0 40 80 160
Scale Feet

Figure No. 5



Section a-a Building A

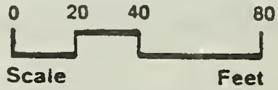
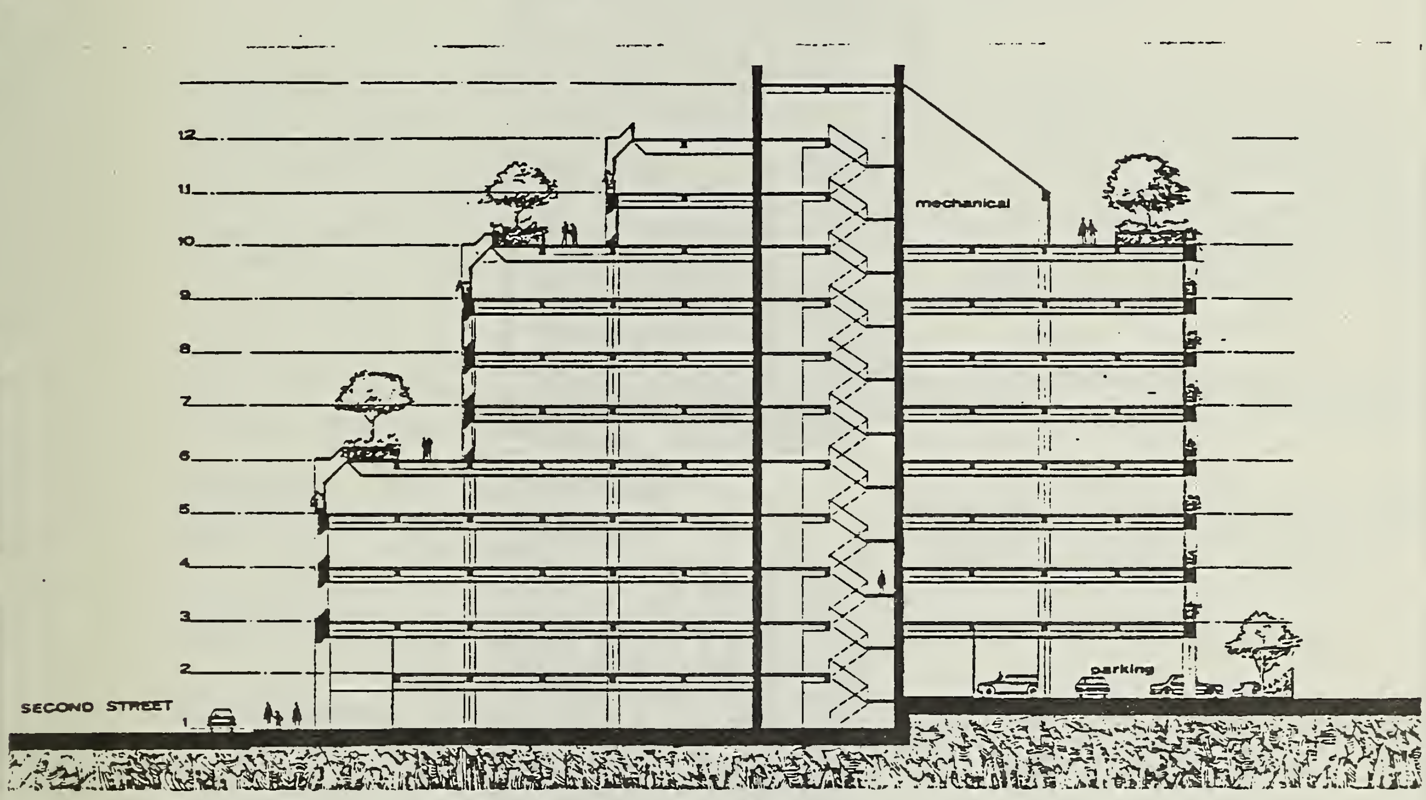


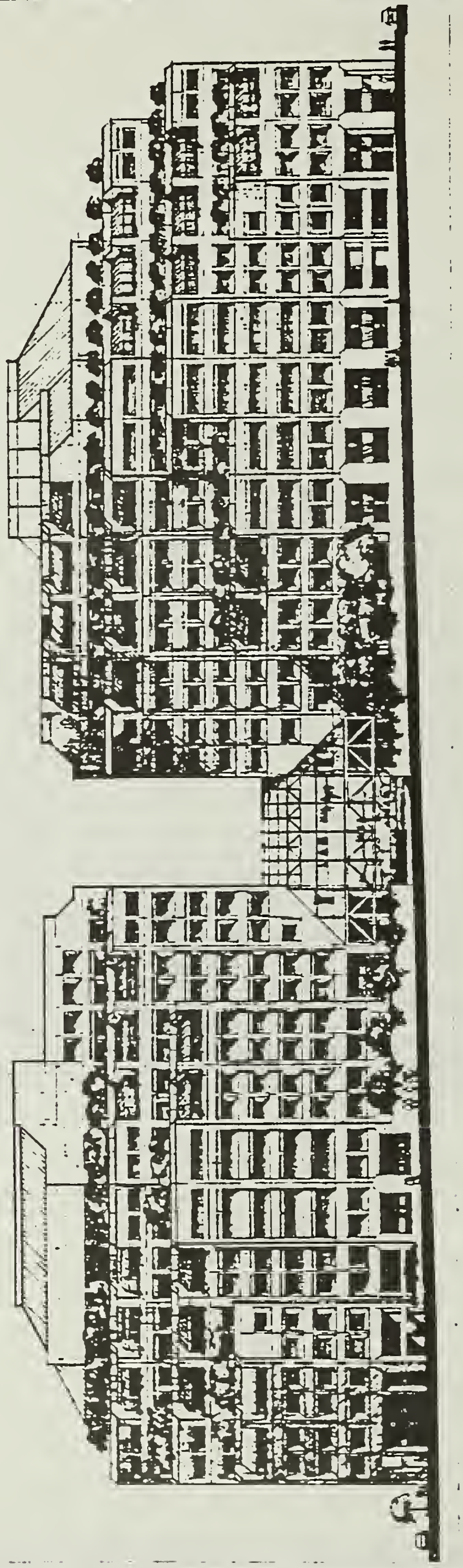
Figure No. 6



Section b–b Building B

0 20 40 80
Scale Feet

Figure No. 7



Second Street Elevation

Figure No. 8

II. POTENTIAL ENVIRONMENTAL EFFECTS

Potential environmental issues resulting from the proposed project include compatability with surrounding land uses, visual quality and urban design, housing impacts generated by increased employment, circulation requirements and effects on existing vehicular and transit systems and parking, construction noise and the impact of freeway noise on the project, cumulative air quality impacts, effects of shadows, effects on utilities and public services, seismic reponse of the site, and energy demand. These issues will be covered in further detail in the focused EIR.

Potential environmental issues of the proposed project that have been determined to be insignificant, and therefore will not be addressed in the EIR for the project, are described below.

Approvals: The project would not require approval of permits from City Departments other than DCP or BBI, or from Regional, State or Federal Agencies. The project would not conflict with adopted environmental plans and goals.

Visual Quality: Windows would be recessed, and no reflective (mirrored) glass will be used.

Transportation/Circulation: There would be no need for maintenance or improvement or change in configuration of existing public roads or facilities. No new public roads would be constructed.

Air Quality: The proposed project would create no objectionable odors. There would be no burning of any materials.

Wind tunnel tests of the proposed designs do not appear justified.

Biology: The project would have no effect on plant or animal life.

Hazards: The site and the project would neither cause nor be affected by hazardous uses or health hazards.

Cultural: The project would affect no historic site, structure, or building. The project would cause no physical change affecting unique ethnic or cultural values.

Water: The project would not reduce the quality of surface water, would not significantly change runoff, nor change the quality of public water supply, nor quality of groundwater.

Natural Resources: The project would not have a significant effect on the potential use, extraction, conservation, nor depletion of a natural resource.

III. ENVIRONMENTAL EVALUATION CHECKLIST

A. GENERAL CONSIDERATIONS:	Yes	Maybe	No	N/A	Disc.[1]
1. Would the project conflict with objectives and policies in the Comprehensive Plan (Master Plan) of the City?		X			X
2. Would the project require a variance, or other special authorization under the City Planning Code?	X				X
3. Would the project require approval of permits from City Departments other than DCP or BBI, or from Regional, State or Federal Agencies?			X		
4. Would the project conflict with adopted environmental plans and goals?			X		

The proposed project would comply with major provisions of the Comprehensive Plan. Master Plan policies will be reviewed in depth during preparation of the EIR. Compliance of the proposed project with the objectives and policies will be an important area of analysis in the EIR.

The proposed project will require conditional use approval as a planned unit development to allow for increased floor area and a reduction in the required parking. Conditional use approval also will be required for exceptions to the bulk provisions.

B. ENVIRONMENTAL IMPACTS:	Yes	Maybe	No	N/A	Disc.
1. Land Use. Would the proposed projects:					
a. Be different from surrounding land uses?	X				X
b. Disrupt or divide the physical arrangement of an established community?		X			X

Except for bulk and floor area, the proposed project would be consistent with the project site if zoned C-3-S (see Figure 2) which permits an FAR of 7

[1] To be discussed in detail in the subsequent Environmental Impact Report.

to 1. (The proposed FAR would be 5.5 to 1). There is also a 320 foot height limit for the area north of the project site. The PT&T Equipment Building opposite the site is 158 feet in height. The elevated ramps to the Bay Bridge and James Lick Freeway reach a height of 86 feet and form the Eastern boundary to the project site. While there are a number of large buildings and structures in the area such as the 8-story General Electric Office Building, a 7-story office building at 633 Folsom, and the 12-story PT&T office building and 5-story UCB Operations Center on Folsom Street between Second and Third, the pattern of development is generally low rise commercial and industrial buildings between 2-4 stories in height.

The proposed project site is currently zoned M-1 which does allow offices. However, the M-1 district is characterized by more industrial uses.

Compatibility of the proposed project with surrounding land uses will be addressed in the EIR.

2. Visual Quality and Urban Design. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Obstruct or degrade any scenic view or vista open to the public?		X			X
b. Reduce or obstruct views from adjacent or nearby buildings?		X			X
c. Create a negative aesthetic effect?		X			X
d. Generate light or glare affecting other properties?			X		

No scenic views or vistas from existing residential areas or public lands or city streets would be affected. The proposed project would be partially hidden by the 158 foot PT&T Equipment Building opposite the project site and by the elevated freeway ramps to the Bay Bridge and James Lick Freeway at the back of the site which reach a height of 86 feet. One change in views would be screening of the downtown area from the elevated Freeway and approaches to the Bay Bridge. The visual relationship of the proposed project with Rincon Hill to the northeast and any future development on it is a concern and will be addressed in the EIR.

The office building may partially obstruct views from adjacent or nearby buildings. The project site is against the elevated freeway ramps leading to the Bay Bridge and the James Lick Freeway. These structural elements are approximately 86 feet in height and already limit some views to the east.

Light from the proposed project would not affect other properties. Windows will be recessed, and no reflective (mirrored) glass will be used. Illumination of the plazas and arcades will be accomplished so as not to produce glare. Landscaping at ground level and along the rooftop terraces will help minimize any glare.

3. Population/Employment/Housing: Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Alter the density of the area population?		X			X
b. Have a growth-inducing effect?		X			X
c. Require relocation of housing or businesses, with a displacement of people, in order to clear the site?	X				X
d. Create or eliminate jobs during construction and operation and maintenance of the project?	X				X
e. Create an additional demand for housing in San Francisco?	X				X

The proposed project would not alter the residential density of the area population, unless housing is provided on site. Daytime population would increase to a degree not normally expected in an M-1 district.

The proposed project would create additional jobs during the construction and operational phases.

The proposed project may be growth-inducing as it is an employment generator resulting in indirect growth effects, including demand for housing and services and additional demands on streets, freeways, and transit systems.

The site is presently being used for surface parking at the northern and southern end of the property. A 2-3 story concrete and brick structure separates the two parking lots. The building, used for offices, showroom, and warehouse by an office equipment leasing and supply firm, would be demolished.

Additional demand for housing would be created as an indirect effect of increased employment in the downtown area.

4. Transportation/Circulation. Would the construction or operation of the project result in:	Yes	Maybe	No	N/A	Disc.
a. Change in use of existing transportation systems? (transit, roadways, pedestrian ways, etc.)	X				X
b. An increase in traffic which is substantial in relation to existing loads and street capacity?		X			X
c. Effects on existing parking facilities, or demand for new parking?	X				X

	Yes	Maybe	No	N/A	Disc.
d. Alteration to current patterns of circulation or movement of people and/or goods?		X			X
e. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?		X			X
f. A need for maintenance or improvement or change in configuration of existing public roads or facilities?			X		
g. Construction of new public roads?			X		

Project would increase demand on transit systems and roadways. The project site is readily accessible to all major transportation facilities. Vehicular circulation around the site is provided by Folsom, Second, and Harrison Streets which are the northern, western, and southern boundaries of the site. Folsom Street is a one-way street eastbound with four traffic lanes. Second Street is a north-south street with two lanes of traffic each way. Harrison Street is an east-west street with two lanes of traffic each way which become four lanes one way west bound at Third Street. Second Street also is designated as a transit preferential street. Vehicular traffic during the daytime hours is a moderate flow of cars, trucks and service vehicles. At peak evening commute hours, some congestion occurs in the neighborhood as a result of cars queuing up to enter the Bay Bridge and James Lick Freeway on-ramps which are within one block of the site. The impacts will be quantified in the EIR.

The project site is within 2,000 feet of major public transit facilities. Regional transit stations located within a five block radius include the Transbay Terminal (which is served by AC Transit, Greyhound, SamTrans, and Muni); the Montgomery Street BART Station; and the Southern Pacific Railroad Terminal. Local and regional bus stops are located directly in front of the project site, including Muni and Golden Gate Transit.

Project-generated traffic will be analyzed to existing loads and street and freeway capacity. A transportation analysis will consider cumulative impacts of this and other downtown developments on the street system including the cumulative traffic effects of development on industrial viability.

An existing surface small car parking lot would be removed resulting in a net loss of public parking in the vicinity of the project site.

A number of environmental impact reports have been conducted for proposed projects in the vicinity of the proposed Marathon Project. Parking characteristics were examined within several areas and this data is summarized in Table 1. As indicated in this table, the existing parking supply in the project area is very heavily used. Because a vacancy level of 5-10% is necessary for the normal turnover of parking spaces, the 90-95% occupancy rates reflect parking at capacity.

The future parking characteristics in the project area will reflect the changes in parking supply and demand resulting from other development which has been approved. The effect of high parking demand on industrial viability in the area will be addressed in the EIR.

TABLE 1

Examples of Previous Parking Analyses

Document	Boundaries of Parking Analysis	Parking Supply/Occupancy On Street	Parking Supply/Occupancy Off-Street
Final EIR for 315 Howard St. Office Bldg; 1980	Mission, Bryant, First and Main	659/605(92%)	1772/1605(91%)
Final EIR for Pacific Gateway Office Bldg; 1979	Folsom, First, Steuart, Front and California	921/(90%±)	4,260/(95%±)
Final EIR for 101 California Office Bldg; 1979	The Embarcadero, Jackson, Montgomery Second and Folsom	N.A.	11,000/10,000(91%)
Final EIR for Yerba Buena Center; 1978	Market, Harrison, Second and Fourth (irregular boundary)	N.A.	5,800/5,400(93%)

The parking surveys were conducted as a part of other recent development. The Final EIR for the Yerba Buena Center[1] determined that the parking demand by the Center would saturate the parking supply within this area. In addition to the Yerba Buena Center the City has identified a total of approximately 7,000,000 square feet of additional downtown office space which has been approved and is slated for occupancy by 1985.[2] A parking study will be conducted in conjunction with the EIR on this specific project.

Off-street parking spaces are required in M-1 Districts based on the occupied floor area devoted to each type of use. Parking requirements are calculated separately for each type of use. A total of 1,177 off-street parking spaces would be required by the Planning Code for the proposed project. Off-street loading requirements are based on the gross floor area devoted to each type of use. Based upon the most recent City guidelines,[3] the proposed project would require 6-10 off-street loading spaces. An analysis of loading needs will be included in the EIR.

Off-street parking spaces have been provided for 300 cars. Marathon Development California, Inc. is preparing a comprehensive transportation program to address all the varied transportation needs (parking, ridesharing, transit, walking, bicycle) for the proposed project. The transportation program would be proposed in lieu of 100 percent of the code required parking and will be described in detail in the EIR. This approach is felt by the sponsor to be more responsive than 100 percent provision of the Code-required parking in meeting the transportation needs of the prospective tenants and employees.

Existing sidewalks along Folsom, Second, and Harrison Streets provide adequate width to accommodate pedestrian circulation around the project site. Pedestrian circulation around the front and sides of the proposed project also would be expanded and enhanced by covered walkways. Pedestrian circulation at the back of the proposed project would be restricted by the elevated freeway ramps. Pedestrian traffic would be primarily from the north along Second Street. An expanded pedestrian analysis will be included in the EIR.

5. Noise	Yes	Maybe	No	N/A	Disc.
a. Would the proposed project result in generation of noise levels in excess of those currently existing in the area? (during construction)	X				X
b. Would existing noise levels impact the proposed use?	X				X
c. Are Title 25 Noise Insulation Standards applicable?		X			X

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[1] FEIR- Yerba Buena Center, San Francisco Department of City Planning, 1978.

[2] "Guidelines for Environmental Evaluation - Transportation Impacts," San Francisco Department of City Planning, October 1980.

[3] "Guiding Downtown Development," San Francisco Department of City Planning, May 1981.

Project-generated noise levels would be limited to construction noise and, upon completion, noise generated by mechanical equipment associated with the building. The City's Noise Ordinance requires that noise from mechanical equipment not exceed 60 dBA at the property line. The project sponsor has agreed to meet this requirement. This factor will be addressed in the EIR.

There could be significant noise impacts from the adjacent Freeway and Bay Bridge access ramps. The Transportation Noise Element of the Comprehensive Plan shows the project site to be in an area where the day-night equivalent sound level (Ldn) is 70 to 80 decibels. The siting and orientation of the buildings for the proposed project would help to block freeway traffic noise, thereby reducing noise levels at street level and the central plaza area. A detailed analysis of noise levels and acoustical requirements will be made and ambient noise impacts on the building will be discussed in the EIR. Needed noise insulation measures will be included in the building's final design.

Title 25 applies to new, multi-family residential construction. Should housing be provided on-site (see alternative section below), Title 25 would apply.

6. Air Quality/Climate. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Violation of any ambient quality standard or contribution to an existing air quality violation?		X			X
b. Exposure of sensitive receptors to air pollutants?		X			X
c. Creation of objectionable odors?			X		
d. Burning of any materials including brush, trees, or construction materials?			X		
e. Alteration of wind, moisture, or temperature (including sun shading effects), or any change in climate, either locally or regionally?	X				X

Construction phase of the proposed project would generate short-term impacts on air quality. Completed project could have cumulative impact on regional air quality due to an increase in Vehicle Miles Traveled.

No sensitive receptors (hospitals, convalescent homes, schools, churches) have been identified in the vicinity of the proposed project. A private Christian High School, "Bridgemont," plans to relocate to Third Street and Harrison. The relationship between this school and the proposed project will be discussed in the EIR.

No objectionable odors are expected to occur from construction or operation of a mid-rise office structure. Any odors that might be generated would be properly abated.

The project site would be exposed to northwesterly winds, the most prevalent direction. Buildings to the northwest are 2 to 4 stories high. The site is partially sheltered from westerly winds. The block across Second Street from the project site is occupied by Pacific Telephone highrise. The block across the Second Street/Folsom Street from the site, directly to the west, contains several 3 to 4 story buildings and two newer highrise buildings.

The revised building design includes characteristics that would reduce the potential for wind accelerations at pedestrian level. The northwest face along Folsom Street would include partial setbacks at the sixth, eighth, tenth and eleventh floors. The setbacks would reduce the volume of wind brought down to street level by the building face.

For westerly winds, the orientation of the two buildings would tend to accelerate winds between the buildings. Such wind acceleration would be above ground-level, however, due to the presence of the atrium. The sheltering effect of the 18-story Pacific Telephone building and the use of setbacks along the Folsom Street facade would reduce the potential for wind accelerations at ground level in the plaza and along Folsom Street under west wind conditions.

The project, although in an exposed location, includes several design features known to reduce ground-level wind accelerations near buildings. The potential for adverse pedestrian comfort impacts appears low. Wind tunnel tests of the proposed designs do not appear justified.[1]

Project shadows would affect the south side of Folsom Street, the freeway ramps east of the site and the parking garage. The multiple setbacks included in the proposed design would tend to reduce the area of shadow compared to a design using continuous vertical walls. The EIR will present shadow diagrams in an analysis of shadow effects.

7. Utilities and Public Services. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Have an effect upon, or result in a need for, new or altered governmental services in any of the following?		X			X
fire protection		X			X
police protection		X			X
schools		X			X
parks or other recreational facilities		X			X
maintenance of public facilities		X			X
power or natural gas		X			X
communications systems		X			X
water		X			X
sewer/storm water drainage		X			X
solid waste collection and disposal		X			X

[1] Don Ballanti, Certified Consulting Meteorologist, 18 March 1981.

Proposed project may have a cumulative impact upon public services and utilities. Operating departments will be contacted to determine existing levels of service and future capacities. Should residential units be considered on-site (see alternatives section below), an impact on schools and parks could result.

8. Biology	Yes	Maybe	No	N/A	Disc.
a. Would there be a reduction in plant and/or animal habitat or interference with the movement of migratory fish or wildlife species?			X		
b. Would the project affect the existence or habitat of any rare, endangered or unique species located on or near the site?			X		
c. Would the project require removal of mature scenic trees?			X		
9. Land. (topography, soils, geology) Would proposed project result in or be subject to:					
a. Potentially hazardous geologic or soils conditions on or immediately adjoining the site? (slides, subsidence, erosion, and liquefaction)			X		X
b. Grading? (consider height, steepness and visibility of proposed slopes; consider effect of grading on trees and ridge tops)			X		
c. Generation of substantial spoils during site preparation, grading, dredging or fill?			X		

Seismically the site is relatively stable. The site is primarily underlain by highly sheared and fractured shale rock which gradually becomes harder and stronger with depth. The shale contains abundant clay-filled fractures and occasional interbedded layers of hard, graywacke sandstone. At the southern end of the site, the shale is overlain by sandstone at least 6 feet deep in places. The sandstone is relatively massive and significantly harder and stronger than the shale. In the northern end of the site, the bedrock is overlain by fill and natural soil to a depth of approximately 19 to 24 feet. The upper 12 to 15 feet is a medium dense to dense sandy soil. Underlying these sandy soils is a silty, sandy, clay layer.

The project site is relatively level with less than 2 percent slope throughout most of the site. The greatest change in elevation occurs at the southern

end of the site where there is a 5 percent slope along the Harrison Street frontage. In general, the site slopes downward from Harrison Street toward Folsom Street and upward from Second Street toward the Bay Bridge bus ramps.

The proposed project would not generate substantial spoil materials.

10. Water. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Reduction in the quality of surface water?				X	
b. Change in runoff or alteration to drainage patterns?		X			
c. Change in water use?	X				X
d. Change in quality of public water supply or in quality or quantity (dewatering) of groundwater?			X		

Site is currently impermeable due to coverage of site with asphalt parking lot. There could be possible change in runoff/drainage patterns from structure.

There would be cumulative increase in water usage; however, given normal precipitation, San Francisco has adequate collection and distribution facilities to handle a 65% increase in downtown building space by the year 2000.[1]

11. Energy/Natural Resources. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Any change in consumption of energy?	X				X
b. Substantial increase in demand on existing energy sources?		X			X
c. An effect on the potential use, extraction, conservation or depletion of a natural resource?	X				

Preliminary projections indicate the proposed project would require approximately 2.5 million BTU/hour for Building A and 2.2 million BTU/hour for Building B for space heating/cooling based on an average room temperature of 70 degrees. Lower average room temperatures in winter would require fewer BTU/hour. The estimated electrical lighting load converted to BTUs would require 1.6 million BTU/hour for Building A and 1.4 million BTU/hour for Building B. Total energy consumption would be less than the maximum 126,000 BTUs per gross square foot of heated and cooled floor space per year established by the California Energy Commission. The gallery could act as a greenhouse and

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[1] Downtown San Francisco Conservation and Development Planning Program Phase I Study, Sedway/Cooke, assisted by San Francisco Department of City Planning, October 1979, page 55.

solar collector to augment the building's heating and cooling systems. This potential function of the gallery will be evaluated in the EIR. The proposed project would be designed to comply with Title 24 guidelines regarding energy conservation standards for non-residential buildings.

Energy usage by the proposed project would be comparable to existing downtown office structures. Potentially a "substantial" increase.

The proposed project's cumulative impact on nonrenewable resources such as oil and gas, and renewable resources such as wood, would be insignificant in proportion to the usage patterns of the State and City as a whole.

12. Hazards. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Increased risk of explosion or release of hazardous substances (e.g., oil, pesticides, chemicals or radiation), in the event of an accident, or cause other dangers to public health and safety?			X		
b. Creation of or exposure to a potential health hazard?			X		
c. Possible interference with an emergency response plan or emergency evacuation plan?			X		

13. Cultural. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Include or affect a historic site, structure, or building?			X		
b. Include or affect a known archaeological resource or an area of archaeological resource potential?		X			X
c. Cause a physical change affecting unique ethnic or cultural values?			X		

The Archaeological Clearing House records and other sources will be checked to verify the non-existance of archaeological resources.

C. MITIGATION MEASURES:	Yes	No	Disc.
a. Are mitigation measures included in the project?	X		X
b. Are other mitigation measures available?	Possible if need is identified		

The project sponsor and architect have stated their intent to incorporate all reasonable and appropriate mitigation measures that are identified during the course of the environmental study process for this project. Many of the suggestions made by City officials in early meetings with City officials have been incorporated into the current design.

D. ALTERNATIVES:	Yes	No	Disc.
a. Were alternatives considered:	X		X

Several alternatives to the proposed project are under consideration:

1. The no-project alternative would retain the existing surface parking lot. The existing 2-3 story structure would remain on the site.

2. A mixed-use alternative will consider the possible inclusion of housing units in the proposed project. Such housing units would be undertaken as mitigation of housing needs caused by the office project. This alternative would be designed to fit within the base density allowed for the site.

3. An off-site housing alternative will be considered also as a mitigation of any housing needs.

4. An alternative use project, as allowed by the current M-1 zoning, will be addressed, including compliance with bulk regulations. This alternative will address the predominant uses of industrial or housing on the site.

5. An alternative design will be addressed which complies with all provisions of the Planning Code including off-street parking.

MANDATORY FINDINGS OF SIGNIFICANCE:

	Yes	No	Disc.
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X	
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X	

	Yes	No	Disc.
3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects?)	X		
4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?		X	
5. Is there a serious public controversy concerning the possible environmental effect of the project?		X	

On the basis of this initial evaluation:

_____ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

_____ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers____, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

✓ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Robert W. Passmore
Assistant Director-Implementation

for

Dean L. Macris
Director

Date: 5/12/81

INITIAL STUDY
MARATHON OFFICE PROJECT
SECOND AND FOLSOM STREETS
SAN FRANCISCO, CALIFORNIA

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645 Associates
c/o Martin Zankel
611 Front Street
San Francisco, CA 94111

Robert A. & Helen Schwartz, et.al.
Joseph N. Wineroth Jr.
210 Post Street, #502
San Francisco, CA 94108

U.S. Enterprise Corporation
495 DeHaro Street
San Francisco, CA 94107

John M. Garabedian
P.O. Box 788
Fresno, CA 93712

OFFICE OF THE MAYOR
SAN FRANCISCO

DIANNE FEINSTEIN

APPENDIX B

MAYOR DIANNE FEINSTEIN Thursday, April 9, 1981

A SIX-POINT PROGRAM FOR EXPANDING HOUSING IN SAN FRANCISCO

In San Francisco a young person just starting out in a job or career may have high expectations except for one thing - buying a home. For an older person on a fixed income, just paying the rent can be a monthly ordeal. The old American dream of securely having a decent place to live has become a nightmare of skyrocketing costs. The housing crisis presses on the very marrow of the City. Its origins lie in the national fever of inflation, escalating interest rates and rising land and building costs. But it is compounded and made all the more severe by the City's compact size, the lack of room to expand, or, indeed, the space to develop.

The demand for housing is unrelenting. Vacancies are all but non-existent. The prices of condominiums and houses soar. Rents are the highest in history. Over 2000 new households enter the City each year, but annually less than 1000 new housing units are built. San Francisco's costs for housing are 76% above the national average, the highest in America except for Honolulu. Over the past five years, the price of housing has risen 2-1/2 times faster than salaries.

The rising cost of housing threatens the very cohesiveness that gives balance and stability to this or any city. The pressures of price can be as devastating as the forces mounting along an earthquake fault, for they can divide a city between the very rich in the secure luxury of their elaborate homes and the very poor in the despair and desolation of substandard buildings. Others, from the stabilizing middle - wage earners, young families, junior executives, all productive and

industrious, are forced to scatter to the suburbs, crowding into the City to work during the day and leaving large sections empty and lifeless at night and on weekends

This is intolerable. Yet, the federal budget cutters, instead of confronting the housing crisis here and throughout the United States, merely aggravate it by the ruthless elimination of vital housing programs. Recent budget cuts virtually wipe out federal subsidies to construct or rehabilitate housing for lower-income persons. This year alone, the loss of federal funds will guillotine plans to add 550 low or moderate income units in San Francisco.

We cannot endure the indifference of far away Washington, D.C. Through Congress and the United States Conference of Mayors, we'll continue to crusade for useful housing programs. We will not turn our back on the housing crisis. With resilience and resourcefulness, and a determined self-reliance, we must develop a comprehensive housing program of our own -- to build where possible, to subsidize where practical, to encourage rehabilitation.

Where others may retreat and adbicate the ageless dream for decent and affordable housing, we in San Francisco must mobilize our resources, draw on our ingenuity and zest for enterprise, channel our concern for the welfare of others in a sound and solid commitment for more and better housing.

Decent housing is fundamental to the American way where hope triumphs over despair and opportunity over hopelessness, and it shall not be neglected here in San Francisco I give my utmost commitment to marshalling this community into an all-out program for improved housing.

This program, which I put before you today, encompasses a broad strategy in six detailed components:

1) Develop mixed use housing downtown.

2) Require high-rise developers to construct or rehabilitate housing throughout the City.

3) Develop the Van Ness Corridor, Rincon Hill and other underdeveloped sites.

4) Speed-up development of housing on publicly-owned lands.

5) Promote sale of $60-million in tax-exempt mortgage revenue bonds for affordable housing.

6) Evaluate legalizing secondary (in-law) units.

Taken together, these six elemental components will produce 21,000 units, at all price ranges, over the next decade. This will be housing largely produced by the City's own bootstraps. To produce 20,000 units by 1985, as voters mandated last year, will require more than the City alone can provide. The goal unquestionably is monumental, and the City can meet it only with help. The help must come from private industry, drawing on the natural attraction of San Francisco as a splendid place in which to live. But, in large measure, help must come from the Federal government. The housing shortage is national in scope, and the national government must reassure the obligation to help house the elderly and the needy and to assist working men and women with low-interest mortgages. If this City, or any City, is to produce affordable housing, the Federal government must be a working partner. It must restore many of the vital subsidies and programs so zealously and drastically cut by the new Administration. The essential initiative for housing rests now with the City.

We must now move to new frontiers of effort here in San Francisco, and I recommend for your consideration these six integral components of a housing program outlined above and detailed in what follows.

1. Provide Bonuses for Housing in the Downtown

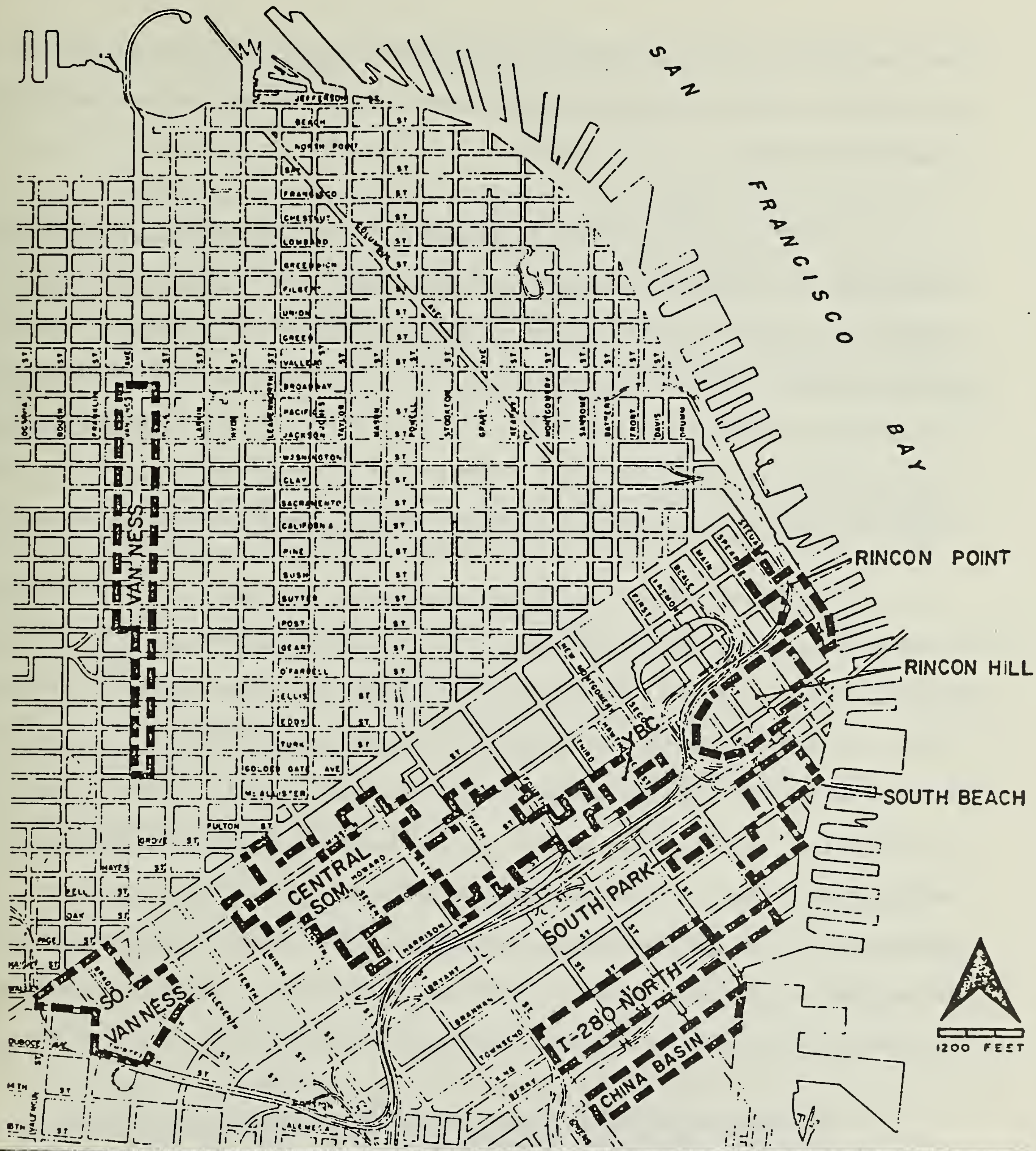
I have long advocated mixed residential/office building development in the heart of our downtown. Such development would both provide needed housing and would also add vitality to an area that lacks life at night and on weekends. I am pleased that for the first time since the Fox Plaza was constructed in the early 1960s proposals are emerging for major mixed residential/office projects downtown at Market and Montgomery, and also on the Dollar block. To further encourage this mixed-use development in the downtown area, I am asking the Department of City Planning to create a set of permanent incentives to encourage housing in the downtown C-3 zoning districts by providing bonuses in floor area ratio and in height limits in exchange for more housing.

2. Couple Housing Development with Downtown Growth

New office development, in addition to creating some 10,000 new jobs a year, also creates a demand for additional housing. Environmental Impact analyses suggest that 40% of these new jobs go to San Franciscans. Increased demand escalates housing costs and rents. The City Planning Commission is now attempting to assure that developers provide additional housing to meet the increased demand brought on as a direct consequence of building new commercial office space. Recent approvals of new office buildings have been coupled with a commitment by the developer to develop housing within the City.

The Bay Area Council recently pointed out that a solution to the housing crisis is vital to the future economic health of the region. I couldn't agree more. We must ask the entire San Francisco development community to participate in providing new housing in partnership with the City.

The City's obligation should be to guarantee (1) that sufficient land is made available for housing through appropriate zoning of private property and the sale of



AREAS FOR NEW RESIDENTIAL DEVELOPMENT

surplus publicly-owned properties, and (2) that the processing of permits for housing is expedited. The development community must employ its entrepreneurial skills to create new housing.

Specifically, I am asking the Department of City Planning to prepare an ordinance requiring, as a condition of approval of new office buildings, that developers be required to provide a specific ratio of new or rehabilitated housing. Consideration should be given to the possibility of bonuses. The housing could be either on, or adjacent to, the site. It could be located elsewhere, or existing vacant dwelling units that qualify could be rehabilitated. The number of housing units required should be based on the extent of increased housing demand created by the new building.

As a corollary, we will explore the creation of a local Housing Development Bank to which a developer could contribute as an alternative for those who elect not to provide housing directly. This local development bank would serve as a financing agency to bankroll housing development throughout San Francisco. Its purposes would be to fund low and moderate income housing wherever possible, replacing the loss of new subsidized units we face, due to federal cutbacks of all our Section 8 (400 new units of low income) and Section **312** (150 units of rehabilitated low income) programs. Additionally, I am requesting that the Planning Commission re-examine the present inclusionary zoning requirements of 10% low income housing for each development of 50 units or more now that federal subsidies to build these units are no longer availabl

3. Encourage Housing Development on Underused Sites Near Downtown

Underused areas close to downtown represent a major untapped housing resource. The Department of City Planning has identified five such areas in close proximity to downtown, where substantial numbers of new housing units could be added without large-scale displacement of existing uses or jobs. (See accompanying map.) I am asking the Department of City Planning to undertake appropriate rezoning of these areas to encourage housing development.

(a) Van Ness Avenue -- I envision the future development of the Van Ness/ South Van Ness Corridor as a major residential boulevard with mixed use development stepped back to preserve light and air. Underused, vacant, or otherwise available sites on Van Ness now exceed 9 acres. They could accommodate nearly one thousand new housing units. The Opera Plaza Redevelopment Project will have a major ripple effect on future housing, providing the first major new housing to be built on Van Ness in many years. We are working with the owners of other property on Van Ness to create a practical action plan for development and improvement of additional housing opportunities.

(b) Rincon Hill -- this area contains approximately 100 acres of under-developed land, which could accommodate several thousand units of desirable high density housing, with dramatic views of the Bay and the financial district. Much of this land is owned by the state or federal government and is currently underutilized. It could be made available and developed for housing without significant displacement of people. Its proximity to the Bay Bridge presents a challenge in terms of buffering the traffic noise, but I am advised it can be done. We are prepared to help sponsor a major housing component for Rincon Hill.

(c) West of YBC -- the area generally bounded by 4th, 7th, Howard and Bryant is a mixed commercial/light industrial/ residential area that inevitably will be subject to development pressures as the Yerba Buena Center Project expands. There has already been an infusion of new housing in the form of mid-rise, subsidized housing for the elderly. The Department of City Planning has identified a number of sites in this area that are now used for surface parking or other low intensity uses that could be rebuilt through private market forces without significant displacement of people. These sites total 46 acres, which, over time, would make excellent locations for mixed commercial/residential development. I am asking the Planning Commission to re-examine the zoning of this area to encourage housing development.

(d) I-280 North -- Another major area of housing opportunity is immediately north of I-280, from 2nd to 9th Streets. It includes the Southern Pacific passenger terminal and tracks, some aging freight warehouses, a Recreational Vehicle park, and a block owned by CalTrans for proposed extension of I-280. In all, it comprises some 53 acres of prime real estate. Its proximity to downtown and good weather makes it a superb residential location if some of the environmental and engineering problems posed by the rail tracks and the freeway can be solved---and I'm confident they can be solved.

Philadelphia and Chicago are examples of cities that built housing on air rights over railroad tracks. Boston has undertaken major new development in an area containing both freeway ramps and rail tracks. I believe it can happen here as well. We can provide thousands of new housing units within walking distance of the central business district. The size of the site makes it possible to create an in-town community without displacement of either people or jobs. In addition, it may be possible to develop the southern edge of China Basin Channel with several hundred units of housing without interference to railroad operations or intensified use of the remaining Southern Pacific property.

Southern Pacific is currently in the process of developing a master plan for these properties. This administration looks forward to working closely with Southern Pacific to provide a maximum amount of housing in this unique area.

4. Speed Up Development of Housing on Publicly-Owned Land

Public agencies constitute the major land owner in the City. All of this property is not needed for public purposes. I have instructed the Mayor's Housing Policy Group (comprised of the heads of the City's Housing agencies) to prepare a list of publicly-owned sites which could be made available for housing development and to prepare a program for marketing this property. This will involve a realistic assessment of the City's continued need for the land and determination of whether it

could be developed with housing consistent with continued public use (for example, new housing over a public parking garage).

(a) Municipal Railway Bus Yards and Pier 45 -- There are several properties under the jurisdiction of the Public Utilities Commission and the Port Commission which should be made available for housing as soon as possible.

Muni Bus Yards -- I am asking the PUC to expedite planning the relocation of the Kirkland bus yard and decking of the Presidio trolley yard. The topography of the Presidio site is such that it would be possible to add a second level for bus storage and a third level for housing without blocking views or adversely affecting the character of the surrounding residential areas. It would then be possible to move most of the buses from Kirkland to Presidio (with the remainder being relocated South of Market), thus releasing Kirkland for housing. In this way, we could improve the operating efficiency of Muni and, at the same time, provide hundreds of needed housing units.

Pier 45 -- The Port recently reported that the location of large scale fish processing facilities on Pier 45 would not be economically feasible and is currently considering alternative uses.

The Fisherman's Wharf area has become an international tourist center, overshadowing its historic use as a work place and place of residence. There is a danger of over-commercialization of the area if future development is confined to restaurants, hotels, and boutiques. Housing could contribute to the Wharf's appeal as well as provide very needed and attractive living spaces. This is one of the few piers on the waterfront where it would be possible to provide housing consistent with State law and BCDC regulations. Therefore, I am requesting the Port Commission to prepare a careful and sensitive plan for development of Pier 45 with a major housing component.

(b) Redevelopment Land -- I am also asking the Redevelopment Agency, as a major provider of land for new housing in the City, to accelerate its efforts to market sites in existing project areas which are earmarked for housing. In all we have programmed more than 5600 new housing units in redevelopment projects:

YBC	1600
Rincon Point/South Beach	2500
Western Addition	800
Hunter's Point	700
Total	5600

A new residential neighborhood is to be created in the area along the waterfront south of the Bay Bridge, historically called South Beach. I was one of the originators of the idea of creating a new neighborhood here when I served as a member of the BCDC committee which prepared the Special Area Plan for our Northeastern Waterfront. I am delighted that the Board of Supervisors adopted the Redevelopment plan for two sub-areas, Rincon Point and South Beach, which are designed to accommodate approximately 2500 new housing units for people of all incomes and provide parks, services and other amenities.

Substantial amounts of additional housing are scheduled to be provided in Yerba Buena Center. At a minimum, 1600 more new units are to be built, and perhaps as many as 2000. More than 1500 units are currently scheduled for construction in the Western Addition and Hunters Point projects.

5. Tax-Exempt Mortgage Program -- In order to allow more San Franciscans to participate in the home ownership market, we are completing plans to sell a $60-millic tax-exempt mortgage revenue bond issue by late summer or early fall. This program will help 1000 moderate-and middle-income families become homeowners in the first year alone.

The program we are proposing would couple the tax-exempt bond proceeds with private and foundation investment to create a mortgage fund. This will allow a moderate income house buyer to get a significantly reduced mortgage interest rate. In turn, the buyer would share the potential appreciation of the house at the time the unit is sold. I might add that this would be the first such effort in the country without direct public subsidies. The reason for the private money (foundation and other) is to enable the program to reach families in the lower income categories.

Specifically, I envisage a program which includes the following provisions:

(a) At least 50% of the mortgage money would be made available to potential purchasers with incomes below $18,700, (this is 80% of the median income of a family of four). The other half would be made available to families with incomes up to $35,000 (or 150% of the median).

(b) At least 300 of the roughly 1000 units we hope to assist in the first year would be set aside for new construction, or substantial rehabilitation, so that we are expanding the supply at the same time we are making it more affordable.

The Office of Community Development is already working with a team of bond underwriters on this effort. The effect of new federal legislation and fluctuating circumstances in the bond market make it imperative that the City coordinate this new program with other housing finance programs. To assure consistent actions, I am designating the Office of Community Development to coordinate all of the City's tax-exempt financing efforts in housing. In this way, we will be able to link our financing programs with housing development.

6. Consider in certain instances legalizing secondary units

It is estimated that San Francisco has thousands of illegal secondary housing units. The legalization of these units and the creation of additional secondary

units remains controversial, although many believe that a policy of secondary unit development would produce the largest amount of additional housing in a short time span. However, many neighborhoods have justified concern about the impact of such a policy on parking, density, and the general livability of the area. Such a policy may be appropriate and acceptable in some neighborhoods and not others. We should examine the possibilities.

In order to do this, I am asking the Planning Director to prepare a policy for creating secondary housing units on a neighborhood-by-neighborhood basis in full cooperation with neighborhood organizations.

These six actions that I have recommended will produce substantial new housing for San Franciscans. Clearly, if our economy is to continue to prosper, we must proceed with a reasonable level of development that produces jobs and income. But growing economically means that housing opportunities must keep pace. The actions outlined here represent many new and innovative ways of accelerating and encouraging housing production---and these actions can be taken quickly without disrupting our existing neighborhoods.

These new actions are in addition to ongoing housing programs now in place. During the past two months, San Francisco received an Urban Development Action Grant to underwrite the acquisition and rehabilitation of four residential hotels in the Tenderloin. Nearly 500 residential units will be improved and rented at reasonable rates.

We have initiated a program to defer rehabilitation loan payments in certain cases. This program is available to low and moderate income homeowners and owners of rental properties with low and moderate income tenants.

We have also initiated a program making it possible for non-profit corporations to acquire sites to construct or to rehabilitate housing for low and moderate income

residents.

Unquestionably, what is required is the cooperation of all segments of our community---particularly the development and financial communities---which must play a major part in solving our common problem.

In the weeks and months to come, the appropriate city departments will work with the private sector to make these proposals a reality. I look forward to the creation of a new supply of housing that will meet the needs of all San Franciscans---rich and poor alike.

APPENDIX C

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

This section provides background information to aid in understanding the technical aspects of this report.

Three dimensions of environmental noise are important in determining subjective response. These are:

a. the intensity or level of the sound;
b. the frequency spectrum of the sound;
c. the time-varying character of the sound.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing.

The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or Hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in level. The quantitative expression of the frequency and level content of a sound is its sound spectrum. A sound spectrum for engineering purposes is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into ten segments.

Many rating methods have been devised to permit comparisons of sounds having quite different spectra. Fortunately, the simplest method correlates with human response practically as well as the more complex methods. This method consists of evaluating all of the frequencies of a sound in accordance with a weighting that progressively and severely deemphasizes the importance of frequency components below 1000 Hz, with mild deemphasis above 5000 Hz. This type of frequency weighting reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange.

The weighting curve described above is called "A" weighting, and tne level so measured is called the "A-weighted sound level", or simply "A-level".

The A-level in decibels is expressed "dBA"; the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. In practice, the A-level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All U.S. and international standard sound level meters include such a filter.

Although the A-level may adequately describe environmental noise at any instant in time, the fact is that the community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise sources which

creates a relatively steady background noise in which no particular source is identifiable. These distant sources may include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly from hour to hour as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events of brief duration. These may include nearby activities or single vehicle passages, aircraft flyovers, etc., which cause the environmental noise level to vary from instant to instant.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. The L10 is the A-weighted sound level equaled or exceeded during 10 percent of a stated time period. The L10 is considered a good measure of the "average peak" noise. The L50 is the A-weighted sound level that is equaled or exceeded 50 percent of a stated time period. The L50 represents the median sound level. The L90 is the A-weighted sound level equaled or exceeded during 90 percent of a stated time period. The L90 is used to describe the background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the Leq is also widely used. The Leq is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period. The Leq is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

In determining the daily measure of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises.

During the nighttime, exterior background noises are generally lower than the daytime levels. However most household noise also decreases at night and exterior noises become very noticeable. Further most people are sleeping at night and are very sensitive to noise intrusion.

To account for human sensitivity to nighttime noise levels a descriptor, Ldn, (day-night equivalent sound level) was developed. The Ldn divides the 24-hour day into the daytime of 7 am to 10 pm and the nighttime of 10 pm to 7 am. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Ldn, then, is the A-weighted average sound level in decibels during a 24-hour period with 10 dBA added to the hourly Leqs during the nighttime. For highway noise environments the Leq during the peak traffic hour is approximately equal to the Ldn.

The effects of noise on people can be listed in three general categories:

1) subjective effects of annoyance, nuisance, dissatisfaction;
2) interference with activities such as speech, sleep, learning;
3) physiological effects such as startle, hearing loss.

The sound levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Unfortunately, there is as yet no completely satisfactory measure of the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise.

Thus, an important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far". In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers.

With regard to increases in noise level, knowledge of the following relationships will be helpful in understanding the quantitative sections of this report:

a) Except in carefully controlled laboratory experiments, a change of only 1 dBA cannot be perceived.

b) Outside of the laboratory, a 3-dBA change is considered a just-noticeable difference.

c) A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.

d) A 10-dBA change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

APPENDIX D

LEVELS OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS*

Level of Service A

Level of Service A describes a condition where the approach is an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.

Level of Service B

Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.

Level of Service C

Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.

Level of Service D

Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.

Level of Service E

Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.

Level of Service F

Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consider-ation. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.

*City and County of San Francisco, Department of Public Works, Traffic Engineering Division.

APPENDIX E
FISCAL DATA

TABLE 1

Estimated Replacement Costs
for the Proposed Second and Folsom Office Building

	Millions of Dollars
Land[1]	1.64
Construction Cost[2]	
Shell	39
Interior Finish	11
Interim Financing[3] @ 18%	9
Leasing Costs	2.5
Total	$63.1

[1] 1980-1981 Assessment

[2] Marathon Development Corporation

[3] The interim financing is included as it represents the total development costs on which the property tax is calculated.

Table 2 SUMMARY OF MAJOR ASSUMPTIONS AND CONCLUSIONS OF THREE STUDIES OF THE FISCAL IMPACT OF NEW DOWNTOWN DEVELOPMENT

Topic	Assumption or Conclusion of: Appendix C	GG+A Study	Sedway/Cooke Study
Are revenues per square foot from new buildings greater than those from old buildings?	Yes (based on an analysis of the effect of Proposition 13)	Yes (based on the Arthur Andersen study and its own revenue estimates)	Does Not Address the Question
Are costs per square foot of servicing new buildings less than or equal to those of old buildings?	Yes (based on SPUR study, its cost allocation methodology, recent EIRs)	Yes (based on the Arther Andersen study and its own cost estimates)	Does Not Address the Question
Do revenues exceed costs initially in new buildings?	Maybe - examines fiscal impact assuming both yes and no	Yes (based on its own cost/ revenue estimates)	Unclear (cites SPUR study that says yes, but adds that transportation costs may change that conclusion)
Do revenues exceed costs in old buildings?	Maybe - examines fiscal impact assuming both yes and no	Yes (based on update of Arthur Andersen study)	No (based on revisions to SPUR study)
Will the city's fiscal situation be better in the future with new development than without it?	Probably yes - but only if new development is on-going	Apparently yes - with new development, the city would be better off in the future than it is today. The future with and without new development is not compared.	No - unless new revenue sources are found.

Source: Recht Hausrath & Associates in EE. 80.26 101 Montgomery EIR, certified 7 May 1981. "Appendix C" in the second column above refers to this study.

Table 3: SUMMARY OF RECENT STUDIES ON DOWNTOWN'S FISCAL IMPACT

STUDY, AUTHOR, DATE	PURPOSE OF STUDY	DATA SOURCES	STUDY METHODOLOGY	CONCLUSIONS
"Fiscal Concerns" in Downtown San Francisco Conservation and Development Planning Program, Phase I Study, Sedway/Cooke, et al., October 1979, pp. 56-59.	To qualitatively assess the likely fiscal impact of new development in the C-3 area under existing zoning ordinances and under Proposition 0.	SPUR Study (1975)	SPUR cost/revenue estimates for downtown in 1973 and for projected growth 1974-1990 were assumed. Proposition 13's effect on revenues and the possible need for increased transportation infrastructure were considered. Generalized conclusions about fiscal impact of new development were drawn.	1) After Proposition 13, "costs may exceed revenues in the downtown by as much as 25%." 2) "[N]ew downtown development will not solve the city's growing fiscal problem; without new revenue sources, development will make it worse in the long run."
Downtown Highrise District Cost Revenue Study, Arthur Andersen & Co., November 1980	To quantify for 1976-77 and 1978-79 how much revenue the C-3-0 area generated and how much it cost to provide city services to the area.	Data compiled from city records and through conversations with city officials.	The study counted only revenues generated within the C-3-0 and costs of providing services to the C-3-0. "The principle guiding the study methodology was to calculate the amount of revenue that San Francisco would lose and the costs that could be reduced if the Downtown Highrise District were a separate city."	The C-3-0 generated $56.79 million in 1976-77, or 61% more than the cost of city services to the area. In 1978-79, revenues were $53.29 million, or 48% greater than costs.
"Fiscal Considerations" Appendix C, 101 Montgomery Street DEIR, Recht Hausrath & Associates, January 1981.	To draw generalized conclusions about "how new development downtown in a post-Proposition 13 environment is likely to change the City's fiscal health from what it would be without new development."	SPUR study, city records and conversations with city officials.	Conclusions were drawn about how revenues differ between existing and new buildings, and how costs differ between existing and new buildings. Then, under alternative assumptions about the cost/revenue balance in existing buildings and in new buildings, the fiscal impact over time of new development was compared to that of no new development.	"[A]n on-going process of new development would improve the City's fiscal situation." This beneficial impact would cease if new development were halted. This conclusion is tentative due to uncertainties about increased Muni costs.
Downtown Highrise District Cost/Revenue Study, David Jones, February 1981.	To quantify for 1978-79 the revenues generated by businesses in the C-3-0 and the service costs imposed on the city and BART by the C-3-0.	Arthur Andersen study.	The Jones study differs from the Andersen study primarily as follows: 1) Costs of BART (but not revenues to BART) are included; 2) Only revenues paid by businesses and building owners are considered; 3) Muni deficit is computed differently; 4) Most costs are estimated as a percentage of revenues rather than on the basis of actual service demand in the C-3-0.	The C-3-0 imposed costs of $94.4 million on San Francisco and BART, or 125% more than the revenues the area's businesses and building owners generated to San Francisco.
Fiscal Impacts of New Downtown High-Rises on the City and County of San Francisco, Gruen · Gruen + Associates, March 1981.	To quantitatively estimate city revenues from the C-3-0 and costs of servicing the C-3-0 in 1998, assuming the addition of 30 million square feet of building space in the C-3-0 between 1981 and 1998.	Arthur Andersen study; data compiled from city records and through conversations with city officials.	"Only direct effects are considered." Costs are only measured for services "provided within the physical limits of the C-3-0 district" and revenues are limited to "taxes on buildings within the district and the activities that take place within those buildings." Assumes the Arthur Andersen study is accurate and builds upon it.	In 1980, revenues from the 39 million square feet of building space in the C-3-0 were 1.66 times as large as costs. In 1998, after completion of the 30 million square feet of new space, revenues from the entire 69 million square feet of C-3-0 building space would increase to 1.92 times as large as costs.

Source: Recht Hausrath Associates report EIR 101 Montgomery Street, EE 80.26, certified 7 May 1981

TABLE 4

MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO
as of NOVEMBER 1, 1981 in gross square feet

Year	Ttl.Gross Sq. Ft. Cmpltd.	5-Year Total	5-Year Annual Average	Cumulative Total All Office Blds.	All Down-town Office Buildings
Pre-1960		(Net)(3)	(Net)(3)	28,145,000(1)	24,175,000(2)
1960	1,183,000				
1961	270,000				
1962	---				
1963	---				
1964	1,413,000				
		2,866,000	573,200		
1960-1964		(2,580,000)	(516,000)	30,725,000	26,754,000(3)
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
1965-1969		(7,541,000)	(1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	---				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
1970-1974		(7,753,000)	(1,550,000)	46,019,000	42,048,000
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	---				
1979	2,532,000				
		8,157,000	1,631,400		
1975-1979		(7,341,000)	(1,468,000)	53,360,000	49,389,000
1980	1,284,000				
1981/82	3,138,000			57,340,000	53,369,000
Under Construction 83/84	5,600,000	10,022,000	2,004,000		
1980-1984		(9,020,000)	(1,804,000)	62,380,000	58,409,000
Approved Projects	3,113,000			65,182,000	61,211,000

Source: Department of City Planning records

(1) Source: S.F. Downtown Zoning Study - Working Paper No.1, January 1966, Appendix, Table 1, Part 1. For pre 1965, includes the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes 1/3 of mixed use retail/office. For post 1964, includes the entire city.

(2) Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the 1/66 report. For post 1964, the entire area east of Franklin is included.

(3) Net equals 90% of (gross). Net new space is added at an increase factor of 90% since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building.

TABLE 5

Estimated Number of Office Worker Households Able To Afford Various Monthly Housing Costs for the Second and Folsom Office Building (Based on 1981 Data)

Housing Type (Rental)	Median Monthly Cost	Number of Second/Folsom Employees[1]	% Able to Afford Cost[2]
Studio Apartment	$ 440	870-890	75-77
One Bedroom	500	810-840	70-73
Two Bedroom	560	760-790	66-69
Three or More Bedrooms	590	760-790	66-69
1980 Census Median Rent	310	1160	100
(Purchase)			
New Single Family	$1,570	150-185	13-16
Existing Single Family	1,497	185-210	16-18
Condominium	1,140	255-280	22-24
1980 Census Owner-Occupied Dwelling	1,215	230-255	20-22

---

[1]The numbers of employees presented in the table are based on the assumption that 40% of the project employees would move to San Francisco. Thus, the percentages are applied to a total of 1,160 employees rather than 2,900. It is further assumed that these employees would have an income distribution similar to all downtown office workers as reported in the 1974 SPUR study.

[2]The table assumes that all employees are part of households and does not reflect availability of housing, just the affordability. Households are assumed to spend 30% of income on housing.

TABLE 6

PROJECTED EFFECTS OF DOWNTOWN OFFICE DEVELOPMENT ON REGIONAL HOUSING MARKETS

Housing Market	Residency of San Francisco Office Employees[1]	Housing Units Demanded[2]	Household Cumulative Demand[3] 1981-1985	Net Housing Stock[4] 1981-1985	Project Demand as % of Growth 1981-1985
San Francisco	40%	635	10,500	6,000-8,000	7.9 to 10.5
North Bay (Marin and Sonoma Cos.)	12%	285	4,740	16,500-25,000	1.1 to 1.7
Peninsula (San Mateo and Santa Clara Cos.)	18%	395	6,560	52,000-68,000	0.6 to 0.7
East Bay (Alameda and Contra Costa Cos.)	30%	660	11,000	51,000-62,000	1.1 to 1.3
TOTAL	100%	1,975	32,800	125,500-163,000	1.2 to 1.6

[1] Based on EIR data presented in Table 4, page 40 of the present study.

[2] Project workforce of 2,900 and a ratio of 1.8 workers per household for San Francisco, 1.2 for North Bay, and 1.3 for the Peninsula and the East Bay. Source: Employment Development Department, Annual Planning Information: San Francisco/Oakland. May 1981.

[3] Cumulative housing demand calculated from quantities of office space shown in Table 4 as completed in 1981/82 (3,138,000 sq. ft.), under construction in 1983/84 (5,600,000 sq. ft.) or approved (3,113,000 sq. ft.).

[4] Based on straight-line projections of levels of building permit activity reflected in ABAG, Housing Activity Report, No. 3, May 1981. High ranges reflect annual averages over the period 1976 - 1980. Low ranges are extrapolated from 1980 average only to indicate possible continued reductions in housing production.

TABLE 7

Estimated Number of Second and Folsom Office Building Worker Households Residing Outside San Francisco Able to Afford Average Priced Housing

	Average Housing Price[1]	Monthly Housing Cost[2]	Total Employees	Percent Able to afford Monthly Cost[3]	Number Able to Afford Monthly Cost
East Bay	$115,025	$1,160	900	23%	207
North Bay	154,457	1,560	360	16	58
Peninsula	160,103	1,620	540	14	86

Source: Environmental Impact Planning Corporation

[1] Real Estate Research Council of Northern California, Real Estate Report, April 1981, p. 4. 1980 Census data on housing prices are available; however, they cannot be readily aggregated into the subregions under analysis in the present study.

[2] Assumes 20% downpayment with a 30-year mortgage at a fixed interest rate of 15%.

[3] The Table assumes that all employees are part of households and does not reflect availability of housing, just the affordability. Households are assumed to spend 30% of income on housing.

TABLE 8

SINGLE FAMILY PERMITS ISSUED
BY COUNTY FOR SELECTED YEARS

	1976	1977	1978	1979	1980
Alameda	2,971	3,453	4,052	4,129	2,743
Contra Costa	6,122	9,059	5,193	5,557	4,566
Marin	857	894	1,154	694	751
Napa	546	658	627	337	320
San Francisco	312	369	227	239	190
San Mateo	1,813	2,193	1,185	1,685	1,201
Santa Clara	9,318	8,446	6,999	6,098	5,071
Solano	3,032	4,707	3,483	2,773	1,724
Sonoma	3,163	3,627	2,456	3,069	1,779
Region Total	28,134	33,406	25,376	24,581	18,345

Source: ABAG San Francisco Bay Area Housing Activity Report, No. 3, May 1981, pages 20-24.

TABLE 9

MULTI-FAMILY PERMITS ISSUED
BY COUNTY FOR SELECTED YEARS

	1976		1977		1978		1979		1980	
	Rentals	Condos	Rentals	Condos	Rentals	Condos	Rentals	Condos	Rentals	Condos
Alameda	803	102	1,237	20	1,985	480	1,496	718	1,038	1,022
Contra Costa	1,026	0	1,325	20	1,415	0	387	614	240	
Marin	232	156	336	227	679	118	151	25	92	87
Napa	170	82	306	108	248	73	35	0	110	0
San Francisco	1,310	0	1,167	0	1,818	0	1,394	200	549	463
San Mateo	820	252	1,449	197	1,130	343	697	185	424	682
Santa Clara	3,695	138	4,104	377	2,807	214	1,382	556	2,627	327
Solano	142	0	652	59	701	137	684	61	490	64
Sonoma	601	0	1,168	77	948	0	890	109	280	303
Region Total	8,799	730	11,744	1,085	11,731	1,365	7,116	2,242	6,224	3,188

Source: ABAG, San Francisco Bay Area Housing Activity Report, No.. 3, May 1981, pages 20-24.

APPENDIX F

Prepared by:
BOLLES ASSOCIATES
Architects ·· Planners
14 Gold Street
San Francisco, California

October 1981

MARATHON DEVELOPMENT CALIFORNIA, INC.

Second and Folsom Project San Francisco, California

The proposed project, as presented and evaluated in the draft Environmental Impact Report, has been the subject of a number of informal design review meetings with the Department of City Planning.

This design review process, occurring during the past twelve months, focused upon form, massing, and exterior appearance of the buildings. Thus, the proposed project--as submitted to the Department of City Planning--incorporated many of the design suggestions made during the development of schematic plans.

Additional meetings have been held in conjunction with the City's administrative review of the environmental document; these have focused upon the visual quality and urban design impacts of the projects--specifically, the issues of the perceived mass of Building A along Folsom Street, the design treatment of the exterior walls, and the design of the central courtyard.

A series of additional architectural design studies has been prepared in response to these recent comments. The following pages present a comparative series of study models and sketches which illustrate four optional concepts for building form and massing. Positive design elements, such as terraced levels which step back, public open space and retail activities accessible at the pedestrian level, have been retained.

For these studies, the sponsor's requirements of retaining the original floor area, structural system, retail space and open space, together with the City's Urban Design Guidelines for Major New Development, were used to evaluate optional concepts. The merits of each concept were discussed by the sponsor, the design team, and the Department of City Planning.

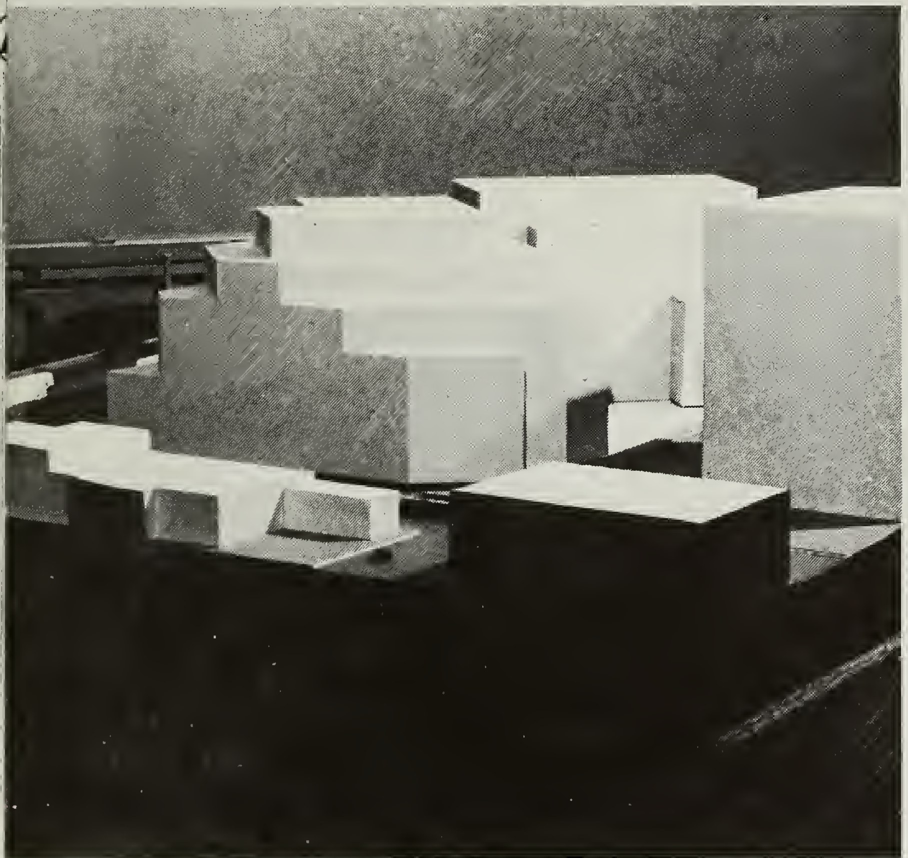
Based upon those discussions, it was concluded that **STUDY 4** offered the most favorable direction and that it should be developed further. Therefore, perspective sketches, elevations, sections, diagrammatic floor plans, and central courtyard plans of the concept described in the fourth study are included to indicate the direction of further analysis and design.

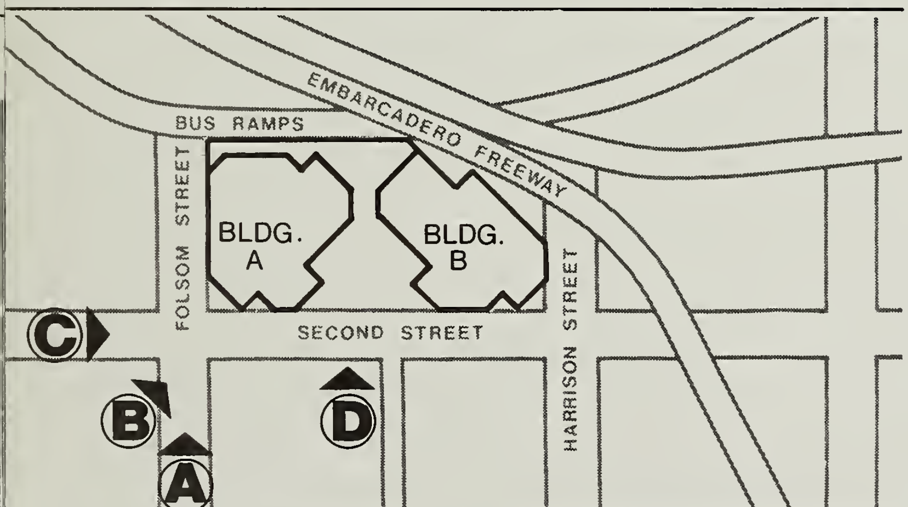
STUDY 1 represents the form and massing concept submitted to the Department of City Planning and evaluated in the principal sections of the environmental review document. This concept would feature a series of terraces which step back at the upper levels to create a transition in mass and scale from street level to the elevated freeway ramps. Building axes would be aligned diagonally to the site boundaries to form a central courtyard. Building corners would be truncated to permit light and air to penetrate the site and to create additional open spaces at the major street corners.

STUDY 2 presents an optional form and massing concept which would relate to the form of surrounding structures by squaring building corners at lower levels; upper levels would remain in a diagonal relationship to the base. Thus, building mass along Folsom Street would be reduced, and the squared corners would strengthen and reinforce the existing street pattern. Pedestrian access would be focused along Folsom and Second Streets and within the central courtyard. Retail activities would occur at ground level along Folsom Street and around the courtyard.

STUDY 3 indicates a form and massing concept that would define base, middle, and upper components of the buildings to relate project massing to the existing scale of nearby development and to organize the buildings into separate horizontal elements. The base component, which would be squared at the corners, would unify development by linking the buildings, and would strengthen and reinforce the street pattern. Mass would be reduced along Second Street by utilizing stepped-back terraces at the upper levels. Views and public access from the corner of Second and Folsom streets into the central courtyard would be clearly defined.

STUDY 4 presents a form and massing concept that would incorporate elements of squared corners, terraced facades, varied massing, and visual emphasis along the street level and within the central courtyard. Combined, these elements would provide a transition in height and mass, and a sense of scale, in relationship to surrounding buildings. Mass would be reduced significantly along Folsom Street by terracing upper levels of the building, thus providing greater amounts of light and air available to Folsom Street and the project site. Access into the central courtyard would be defined clearly both visually and physically.





Y 1 represents the form and massing concept submitted to
epartment of City Planning and evaluated in the principal
ns of the environmental review document. It features build-
which would step back at the upper levels to create a
tion in mass from street level to the elevated freeway ramps.

cond and Folsom Project
n Francisco, California

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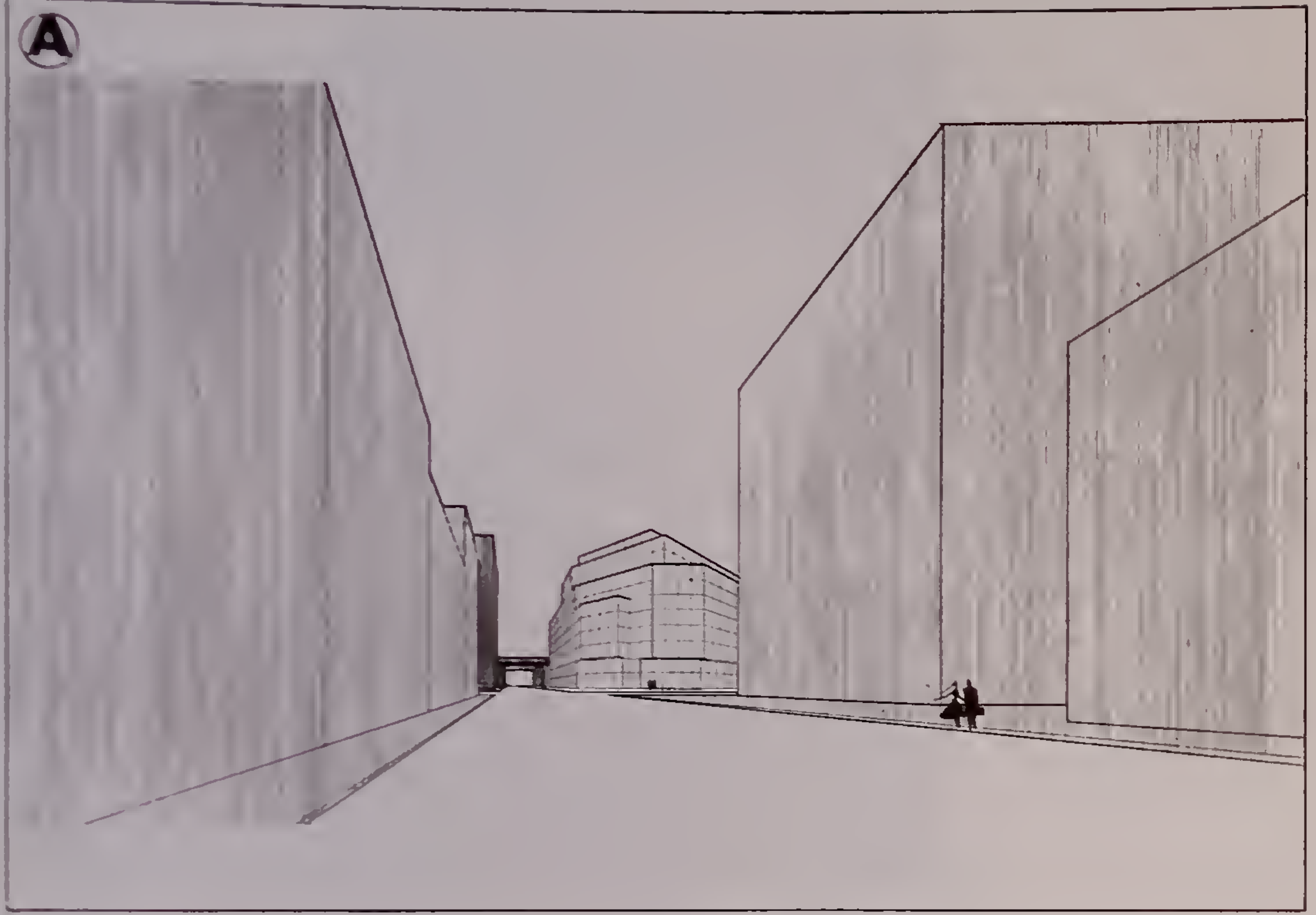
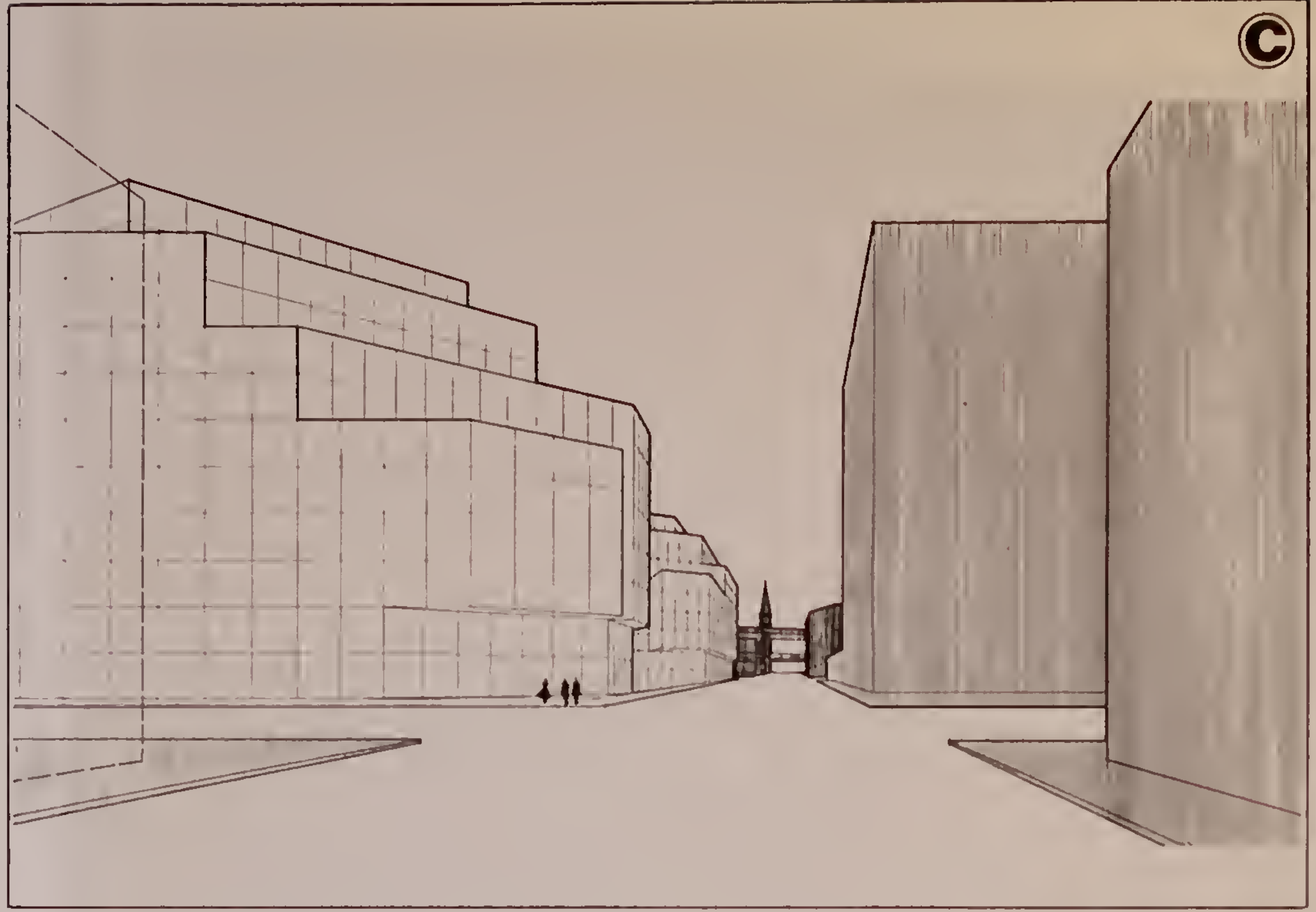
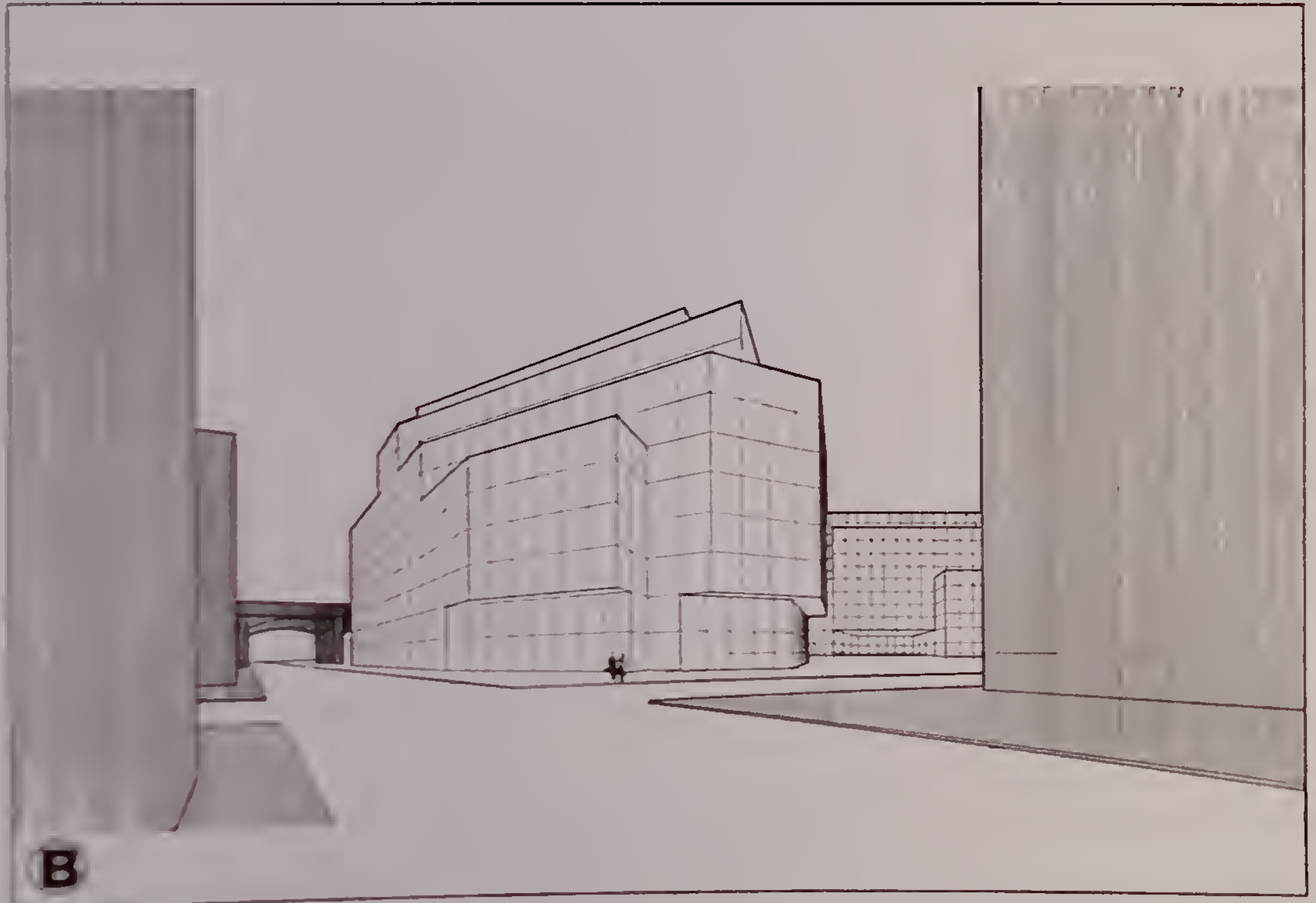
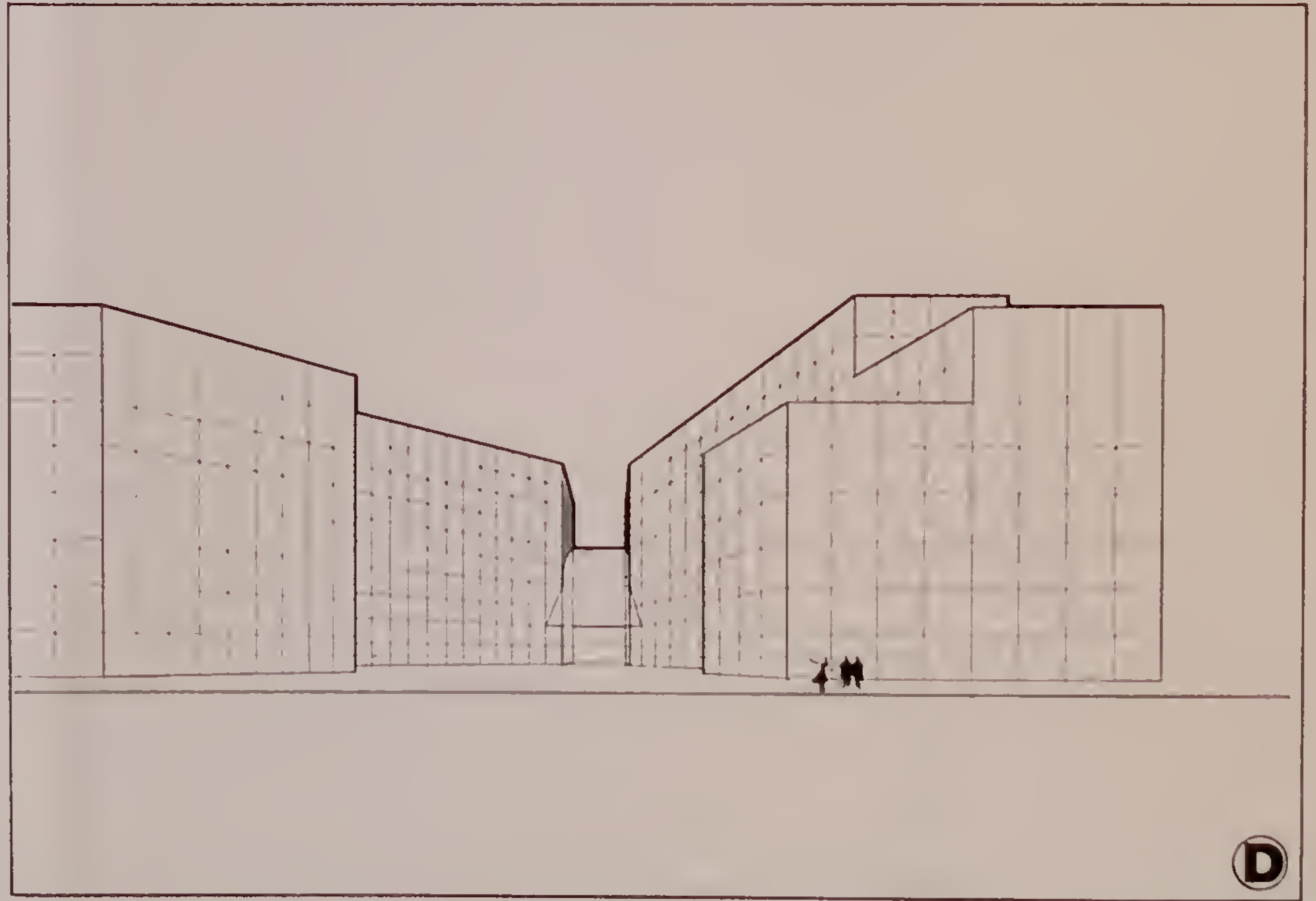
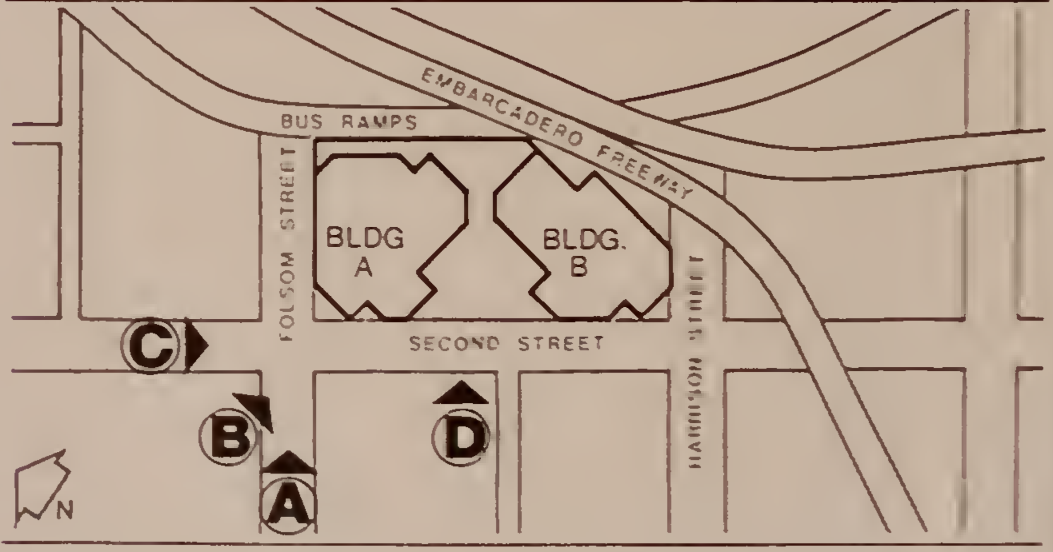




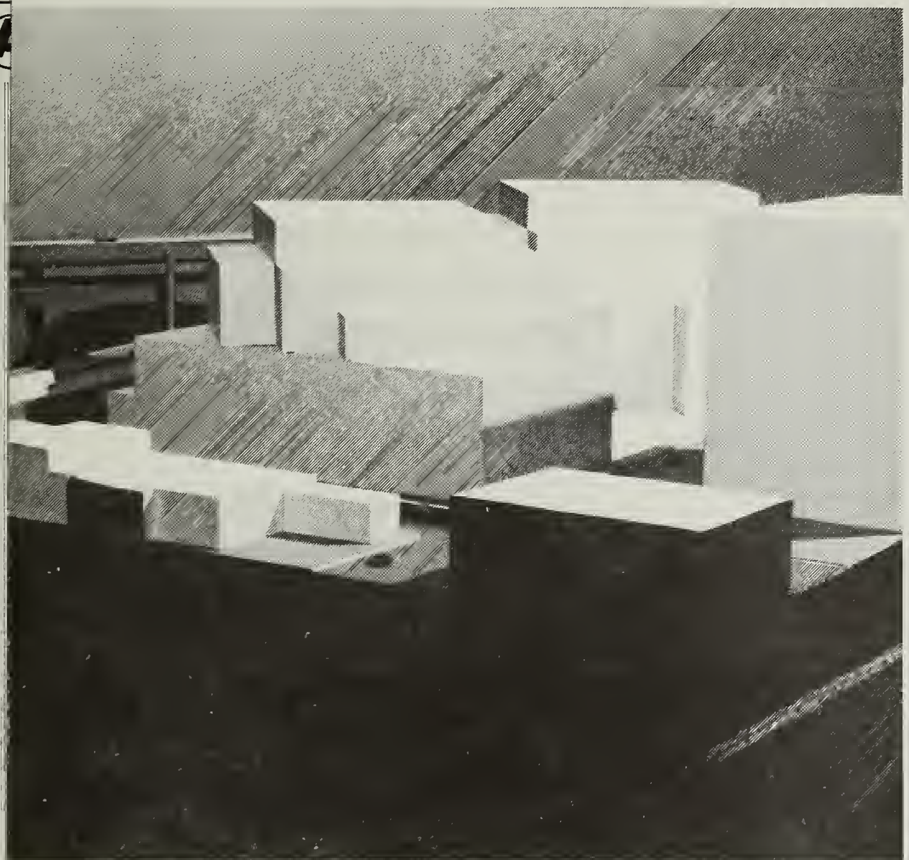


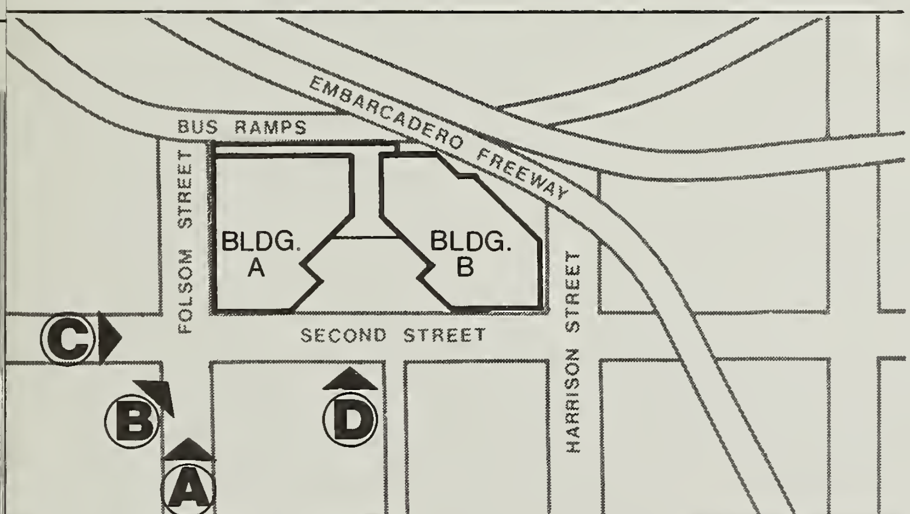




STUDY 1 represents the form and massing concept submitted to the Department of City Planning and evaluated in the principal sections of the environmental review document. It features buildings which would step back at the upper levels to create a transition in mass from street level to the elevated freeway ramps.

Second and Folsom Project
San Francisco, California





Y 2 presents an optional form and massing concept which
reduce building mass along Folsom Street. The squared
rs would strengthen and reinforce the existing street pattern.

cond and Folsom Project
n Francisco, California

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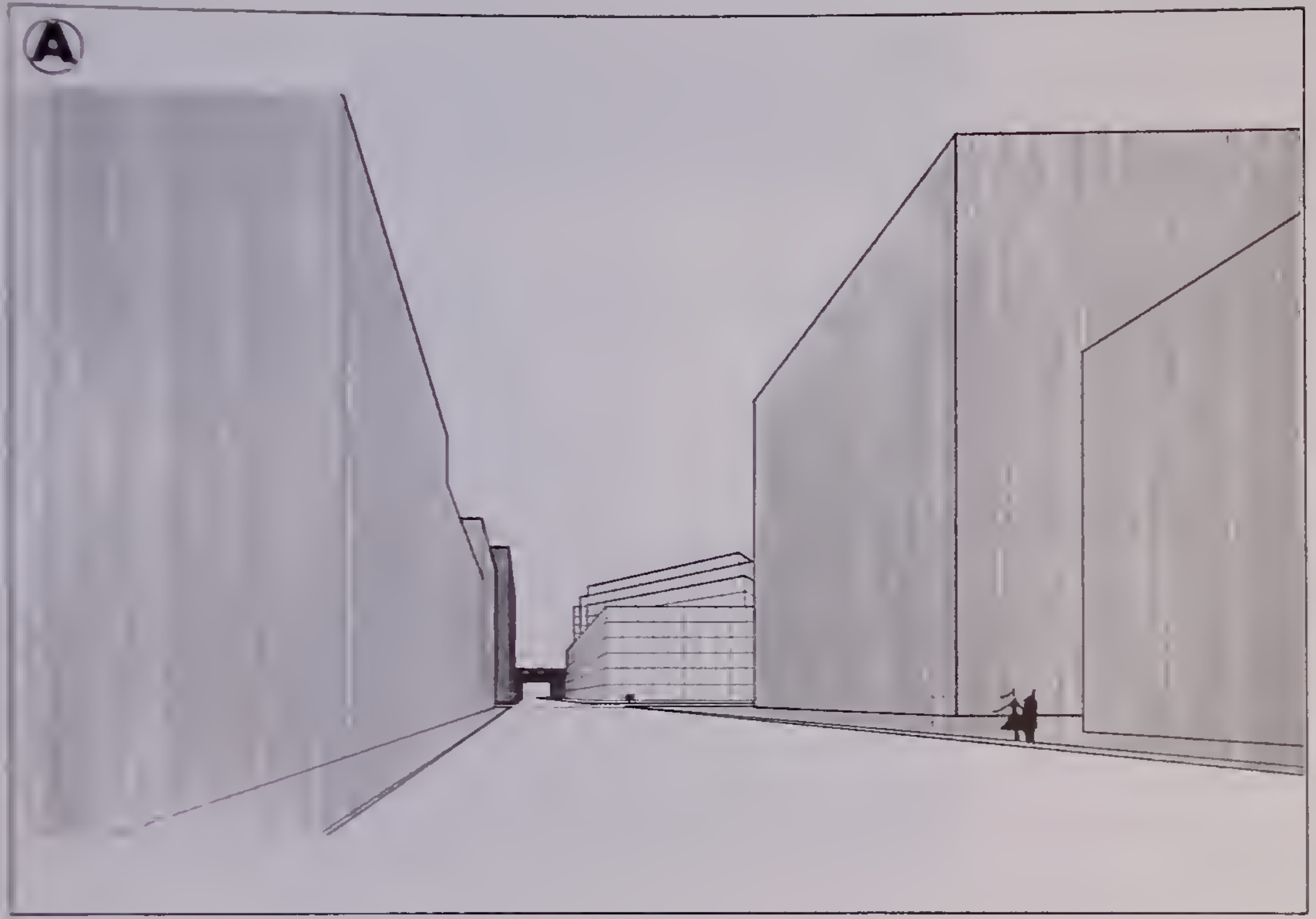
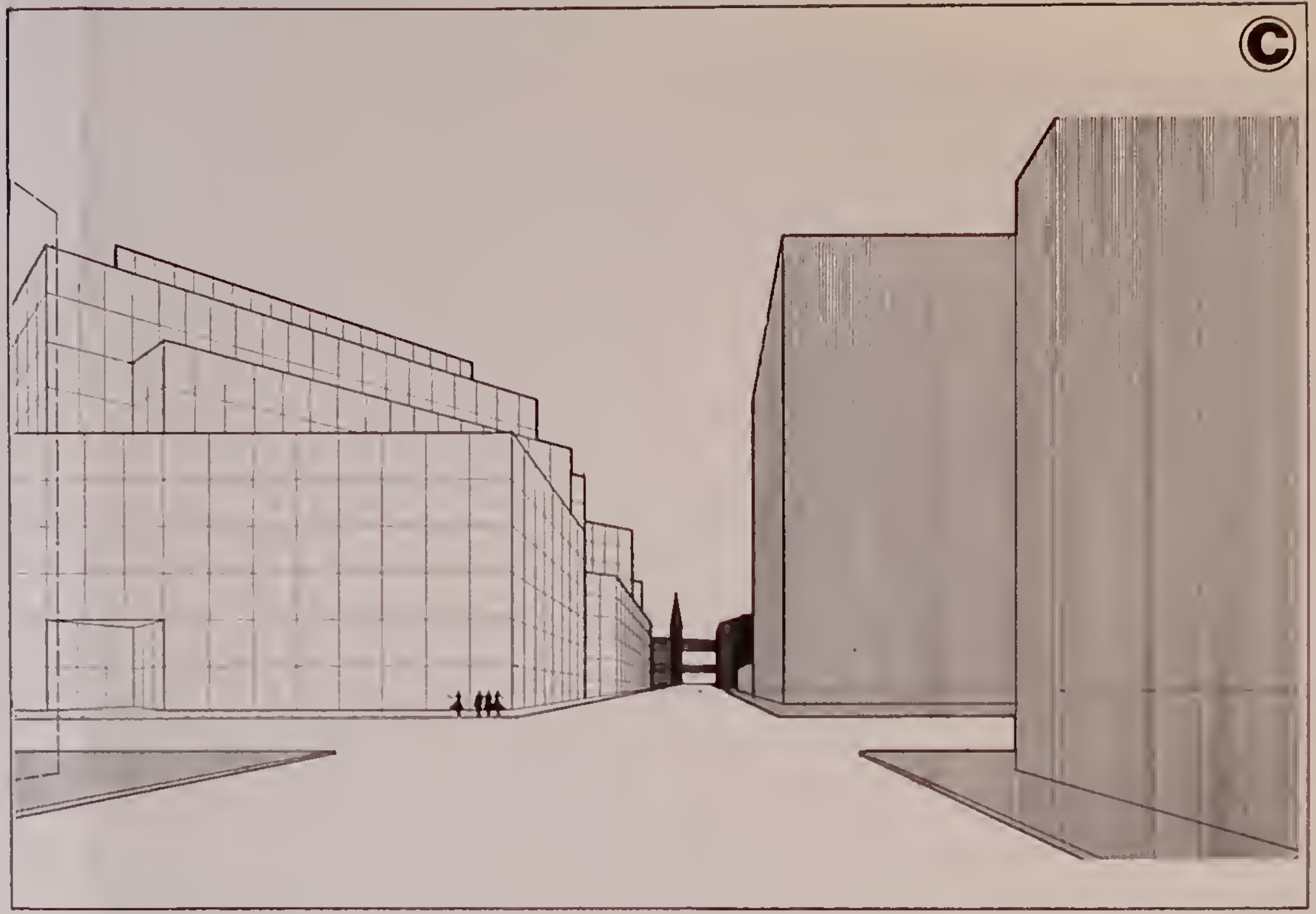
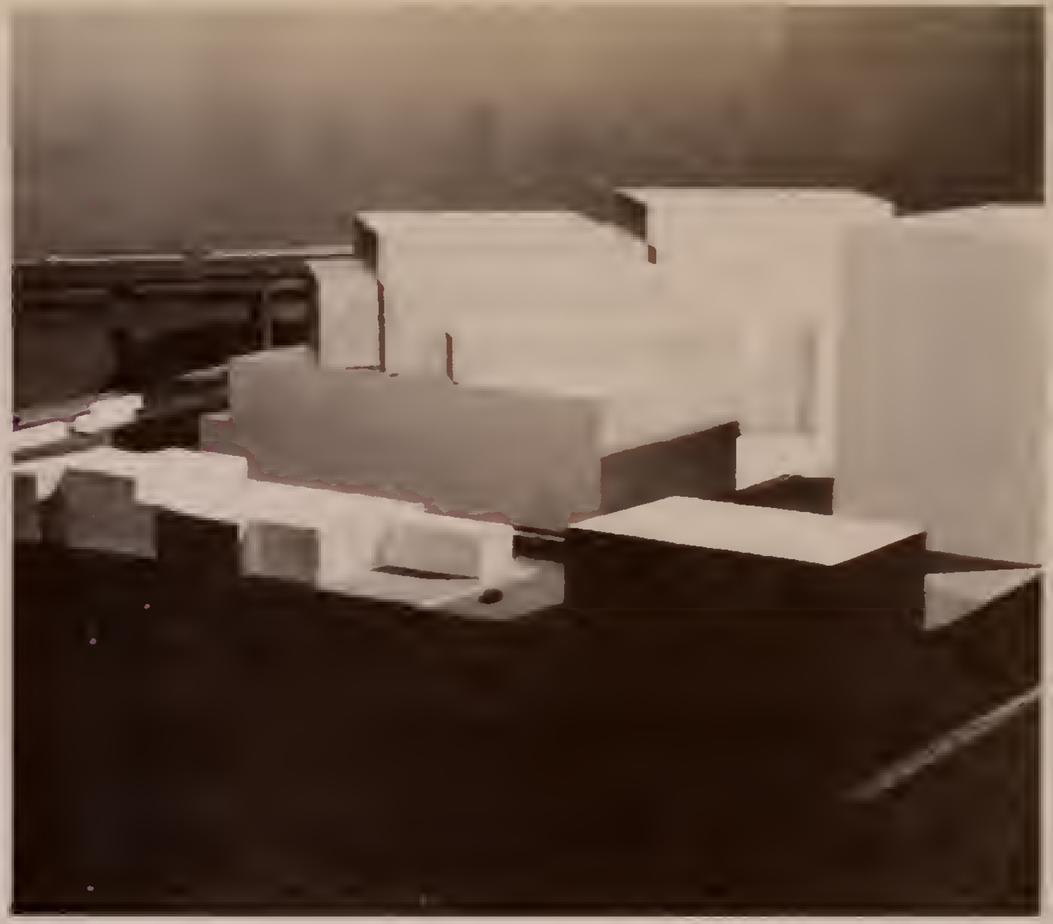
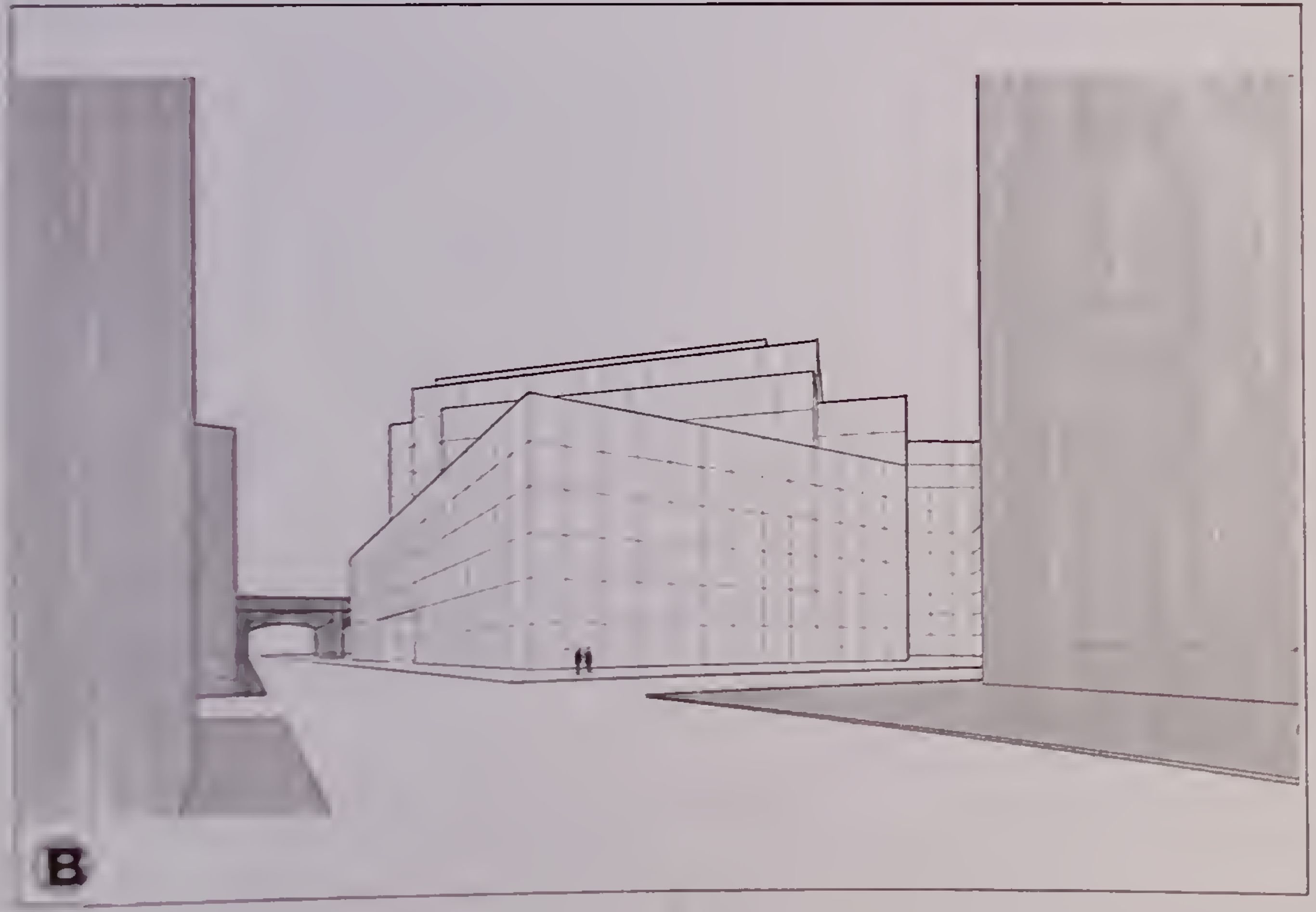
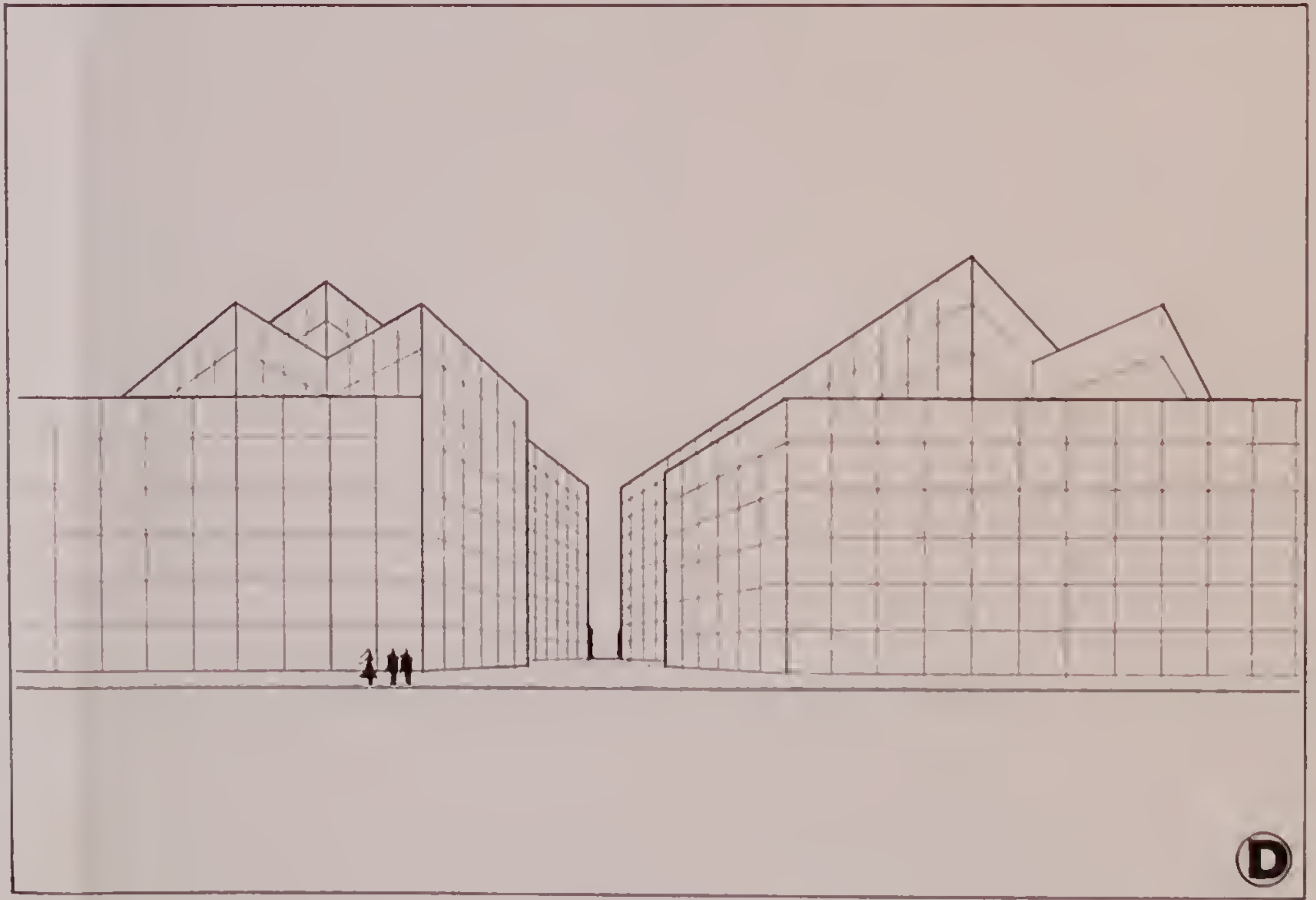
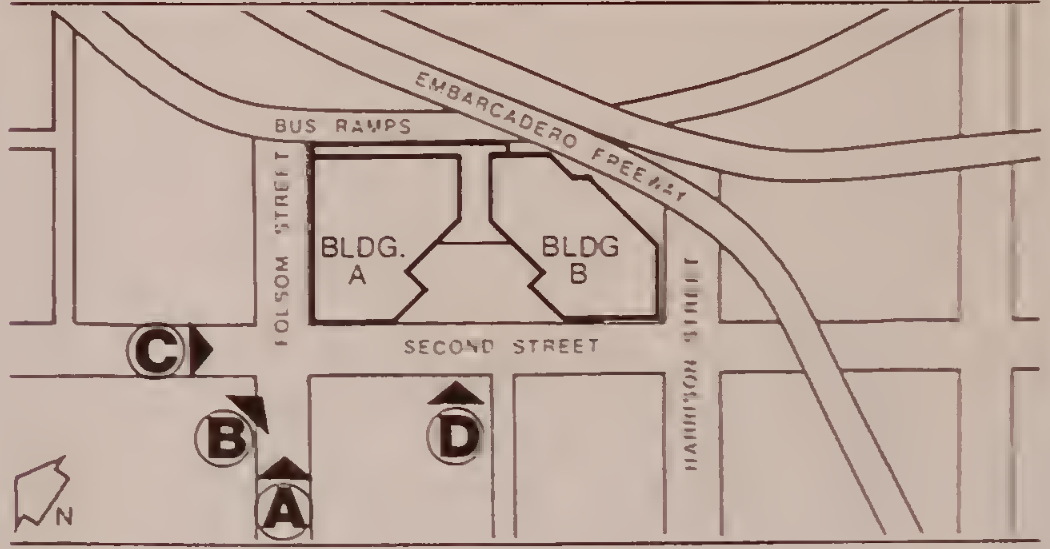






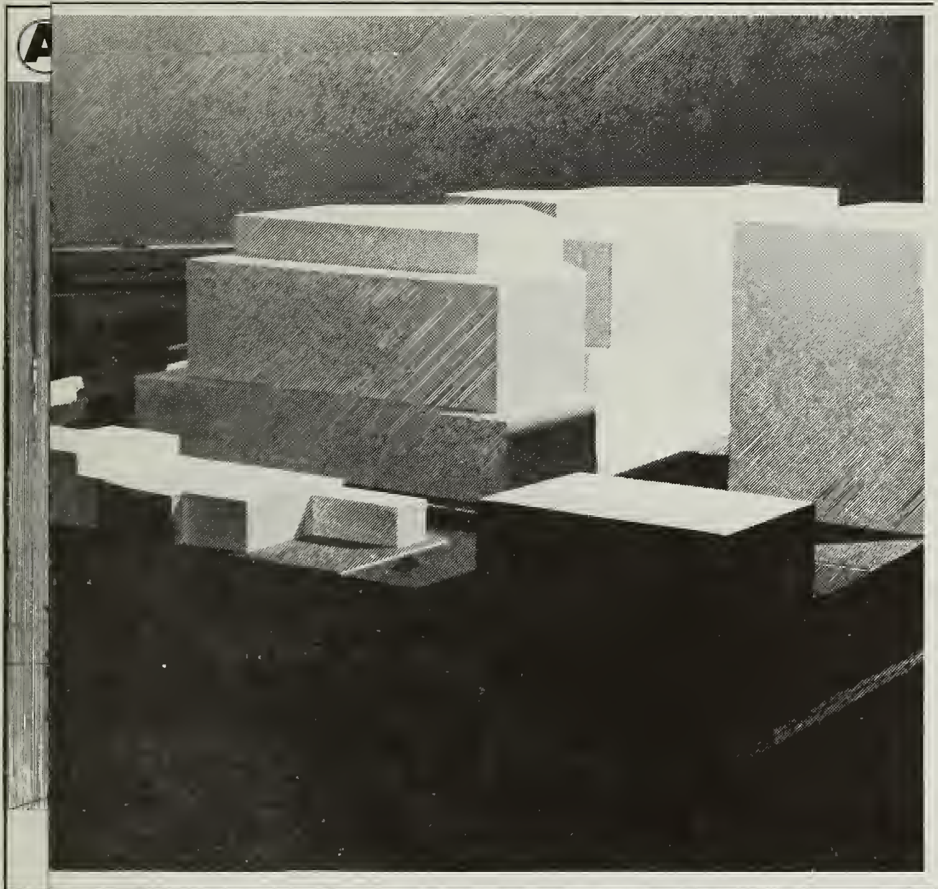


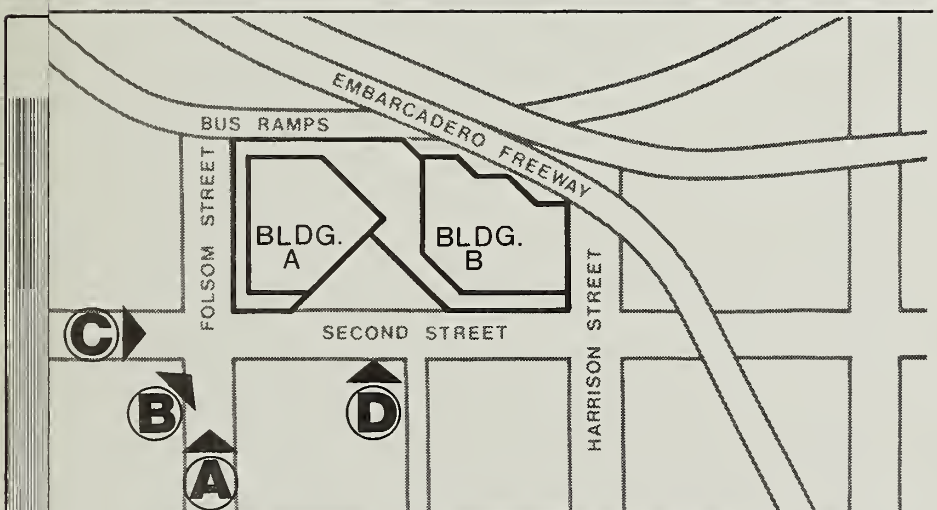




STUDY 2 presents an optional form and massing concept which would reduce building mass along Folsom Street. The squared corners would strengthen and reinforce the existing street pattern.

Second and Folsom Project San Francisco, California





3 indicates a form and massing concept which would e the buildings into separate horizontal elements. The mponent, which is squared at the corners, would unify the gs, strengthen the street pattern, and relate project to nearby development.

cond and Folsom Project
Francisco, California

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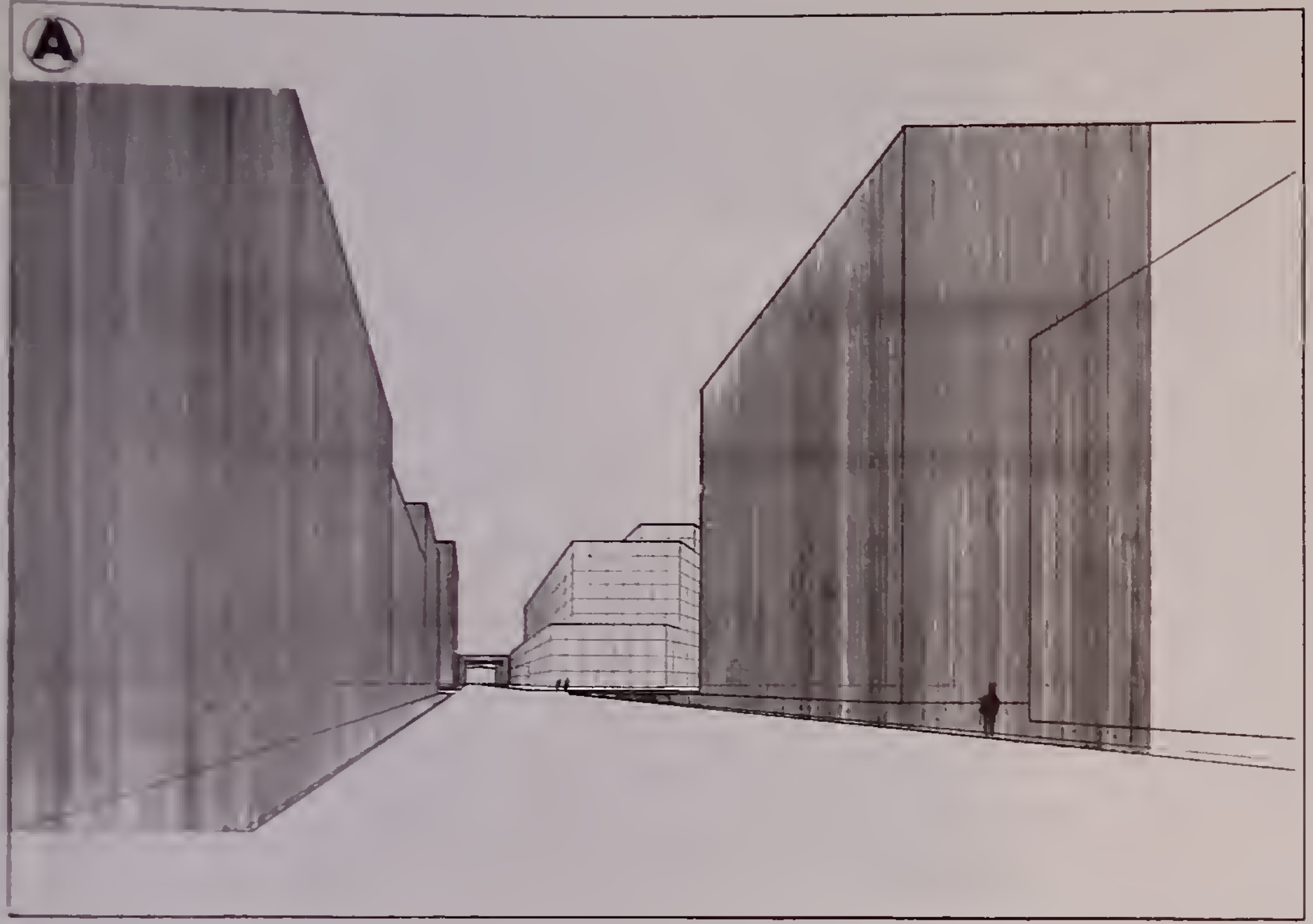
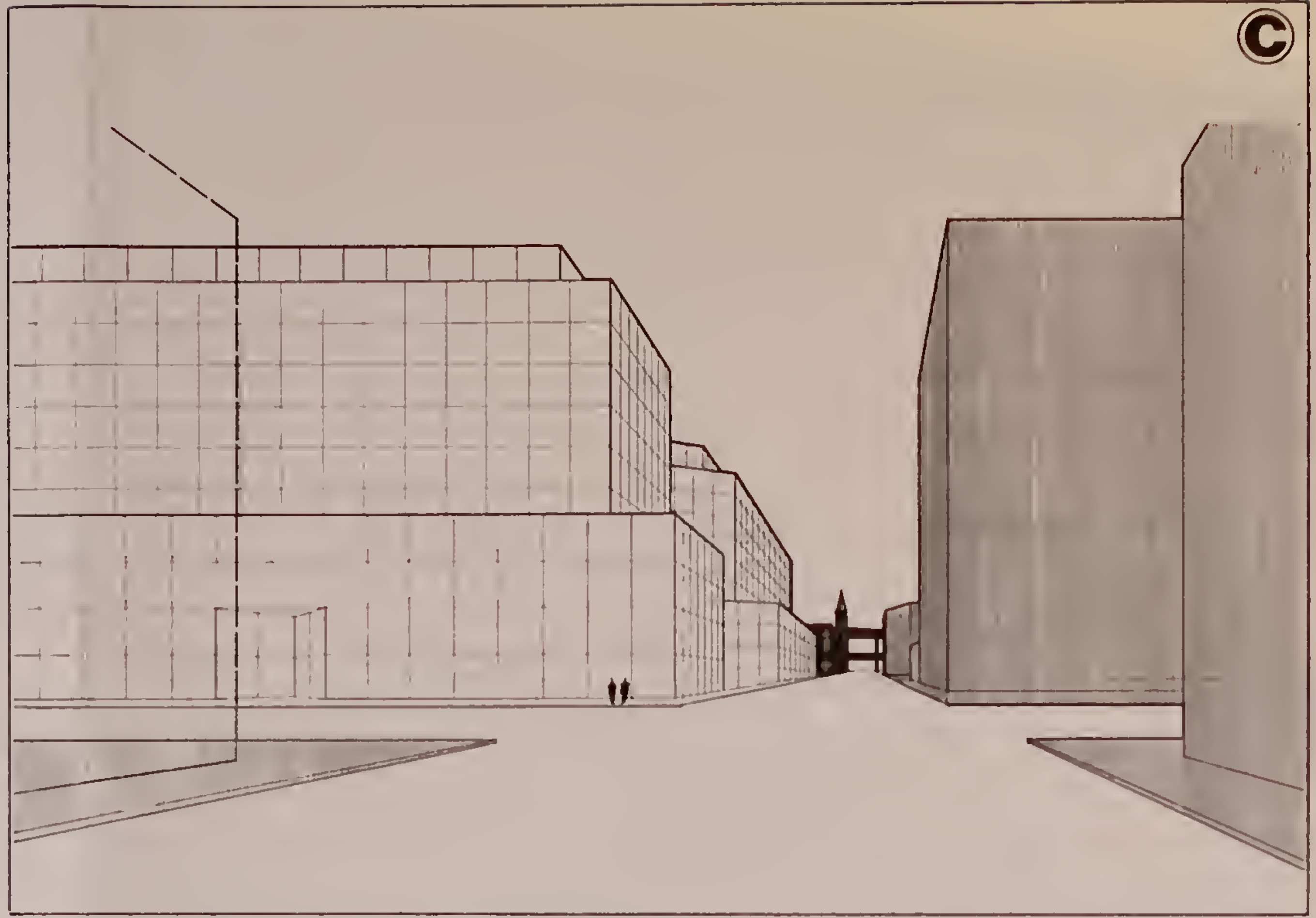
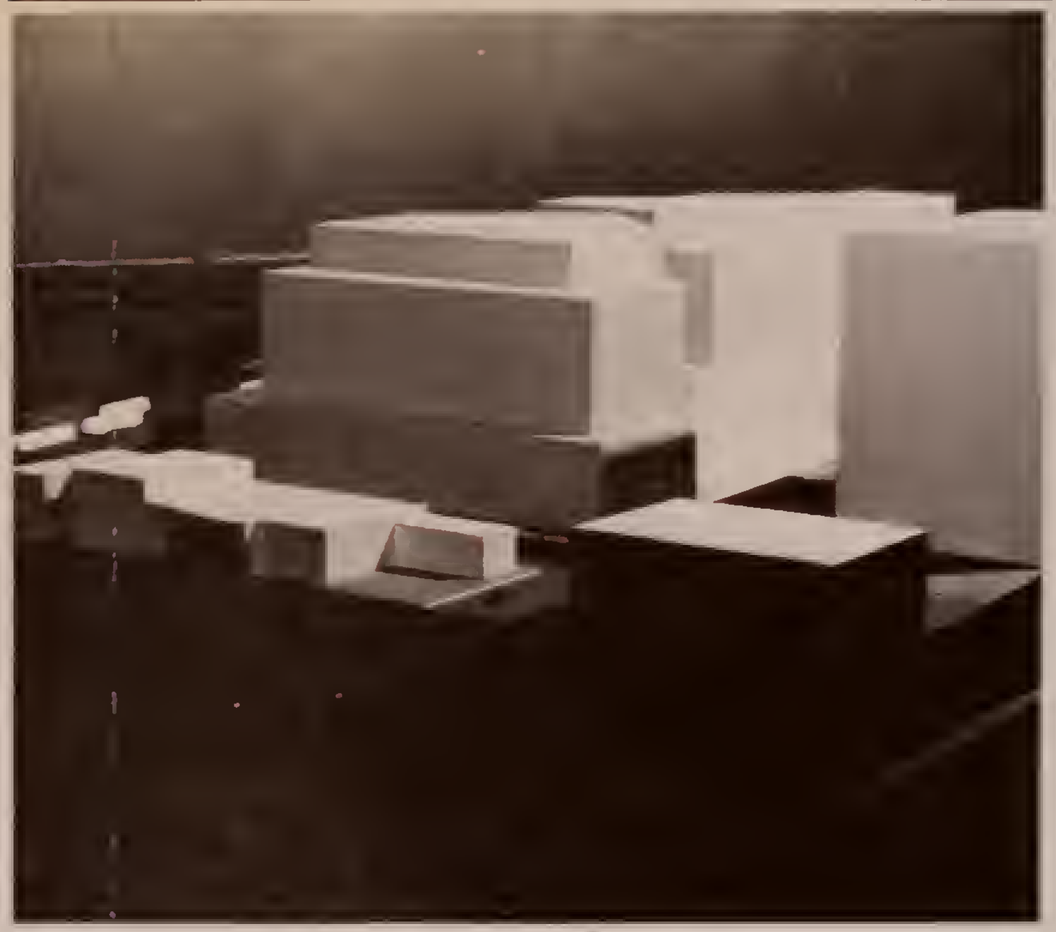
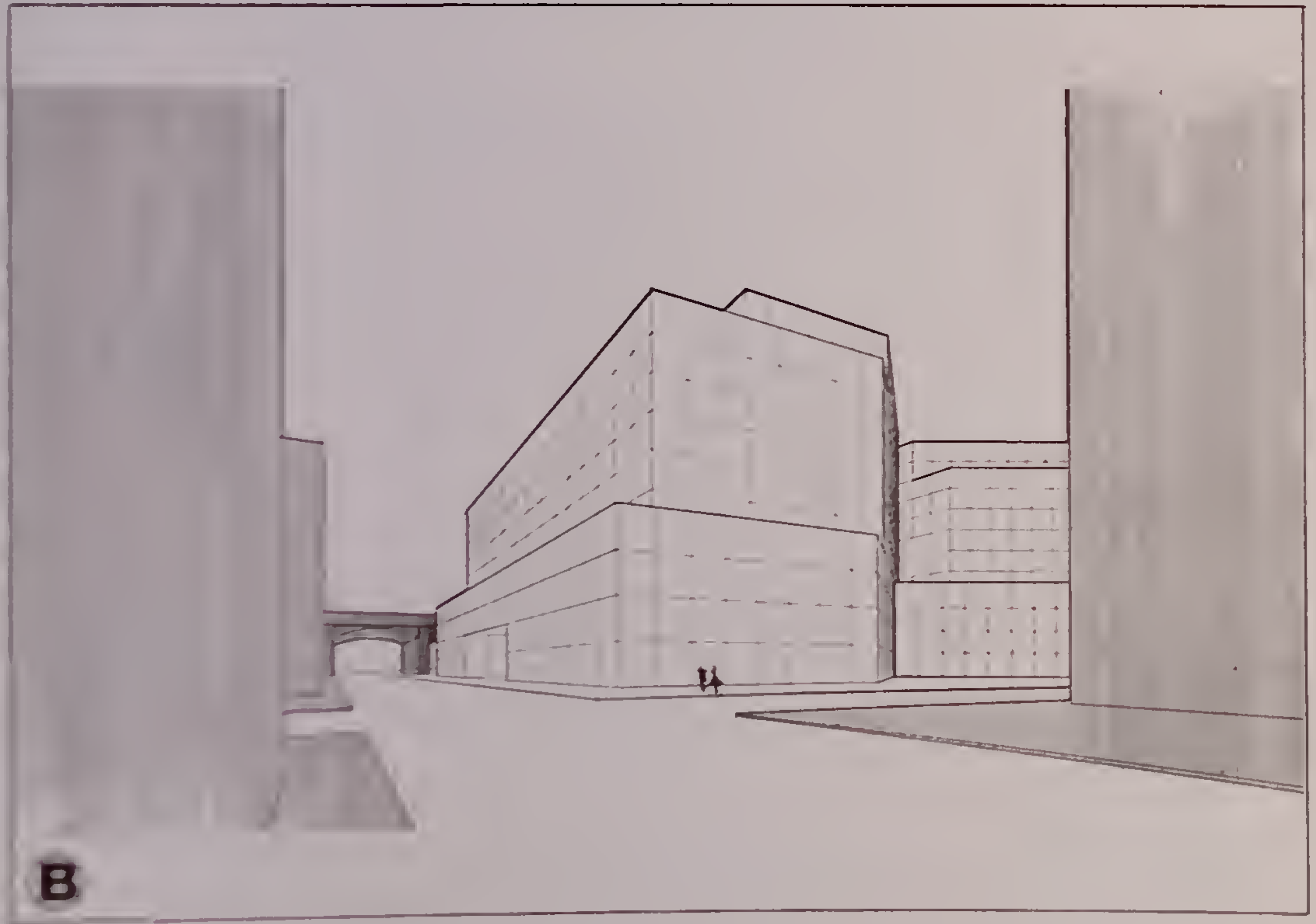
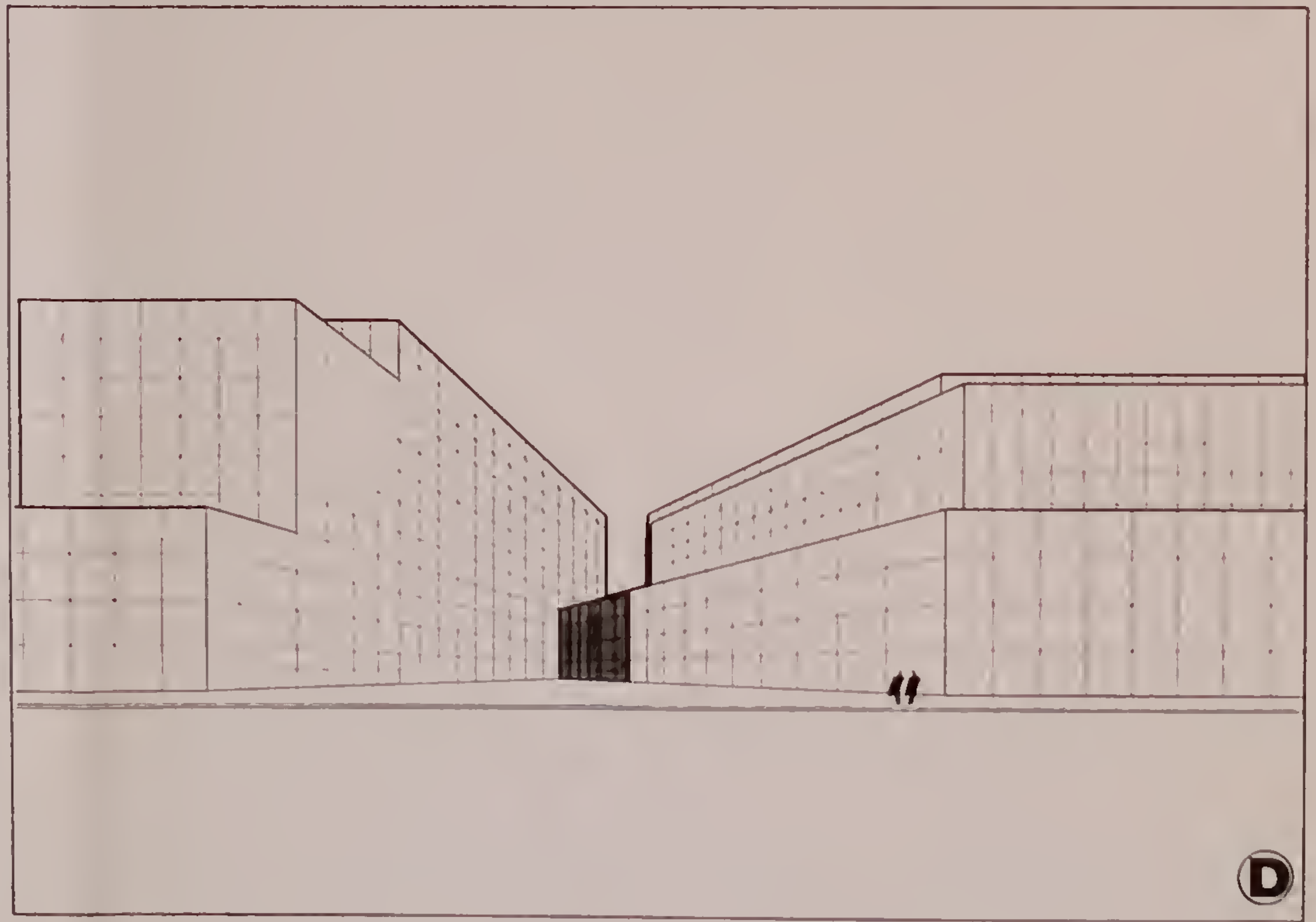
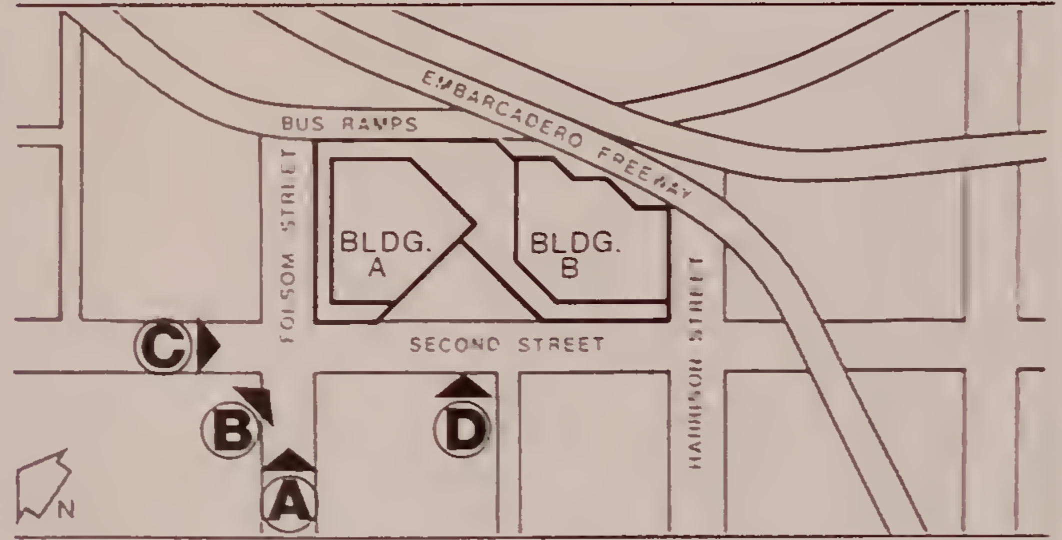








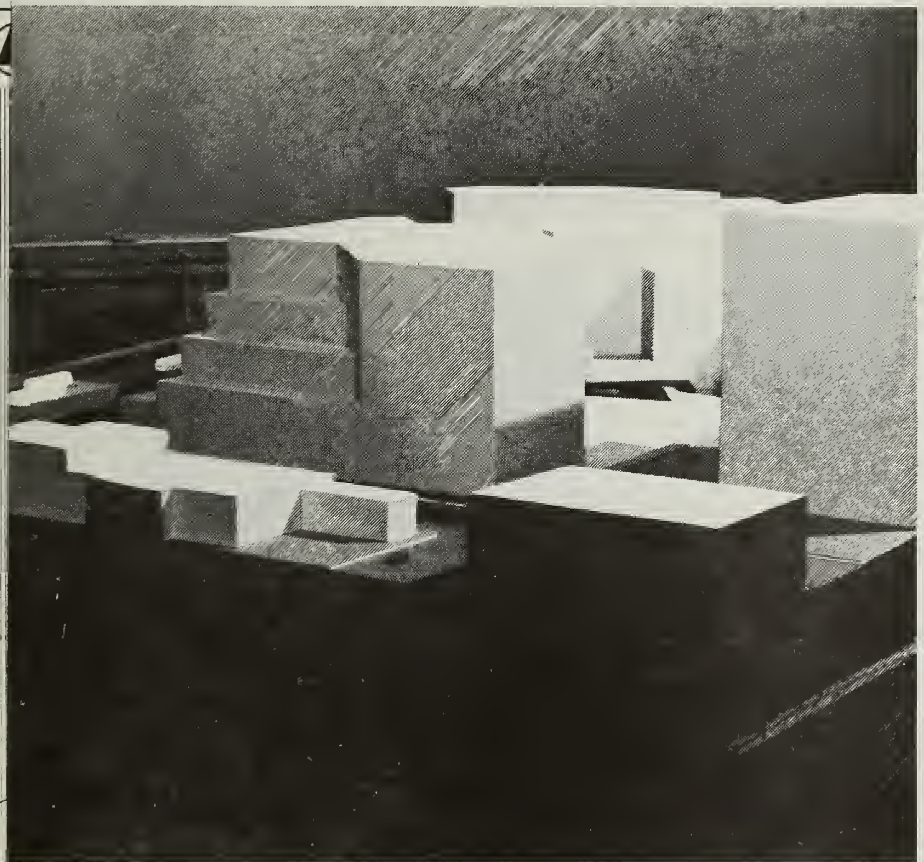


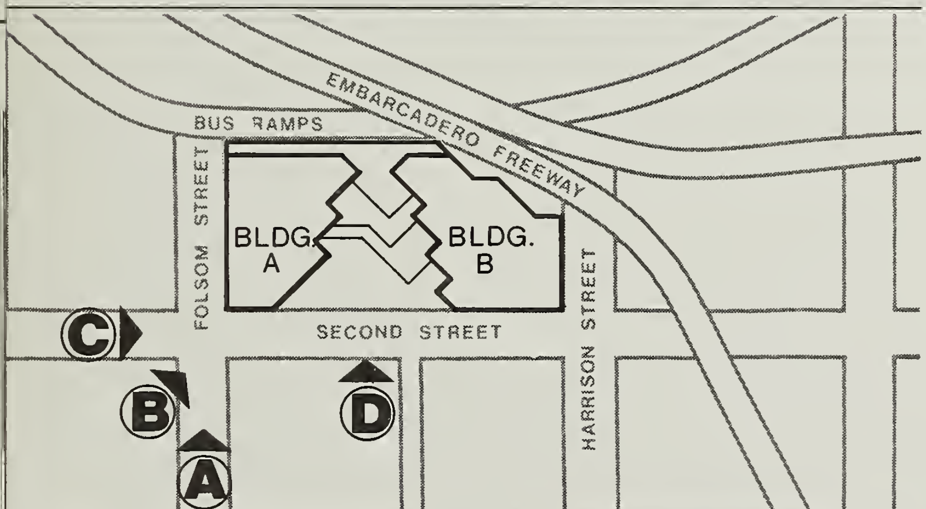


STUDY 3 indicates a form and massing concept which would organize the buildings into separate horizontal elements. The base component, which is squared at the corners, would unify the buildings, strengthen the street pattern, and relate project massing to nearby development.

Second and Folsom Project
San Francisco, California

1 2 3 4





DY 4 presents a form a massing concept that would incorpo- elements of squared corners, terraced facades, and varied ing; visual emphasis would be developed along the street and within the central courtyard. Combined, these elements d provide a transition in height and mass, and a sense of , in relationship to surrounding buildings.

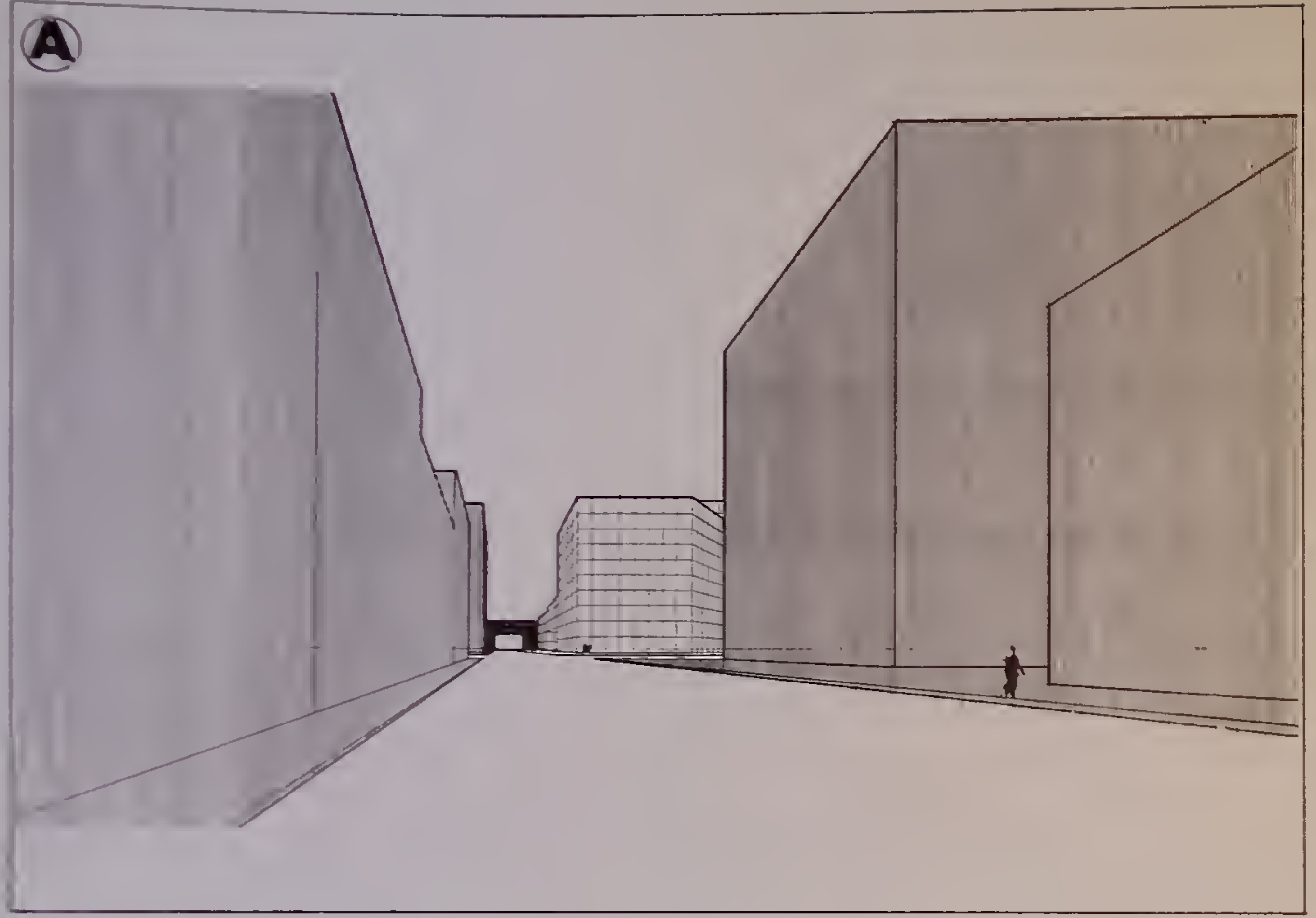
econd and Folsom Project
n Francisco, California

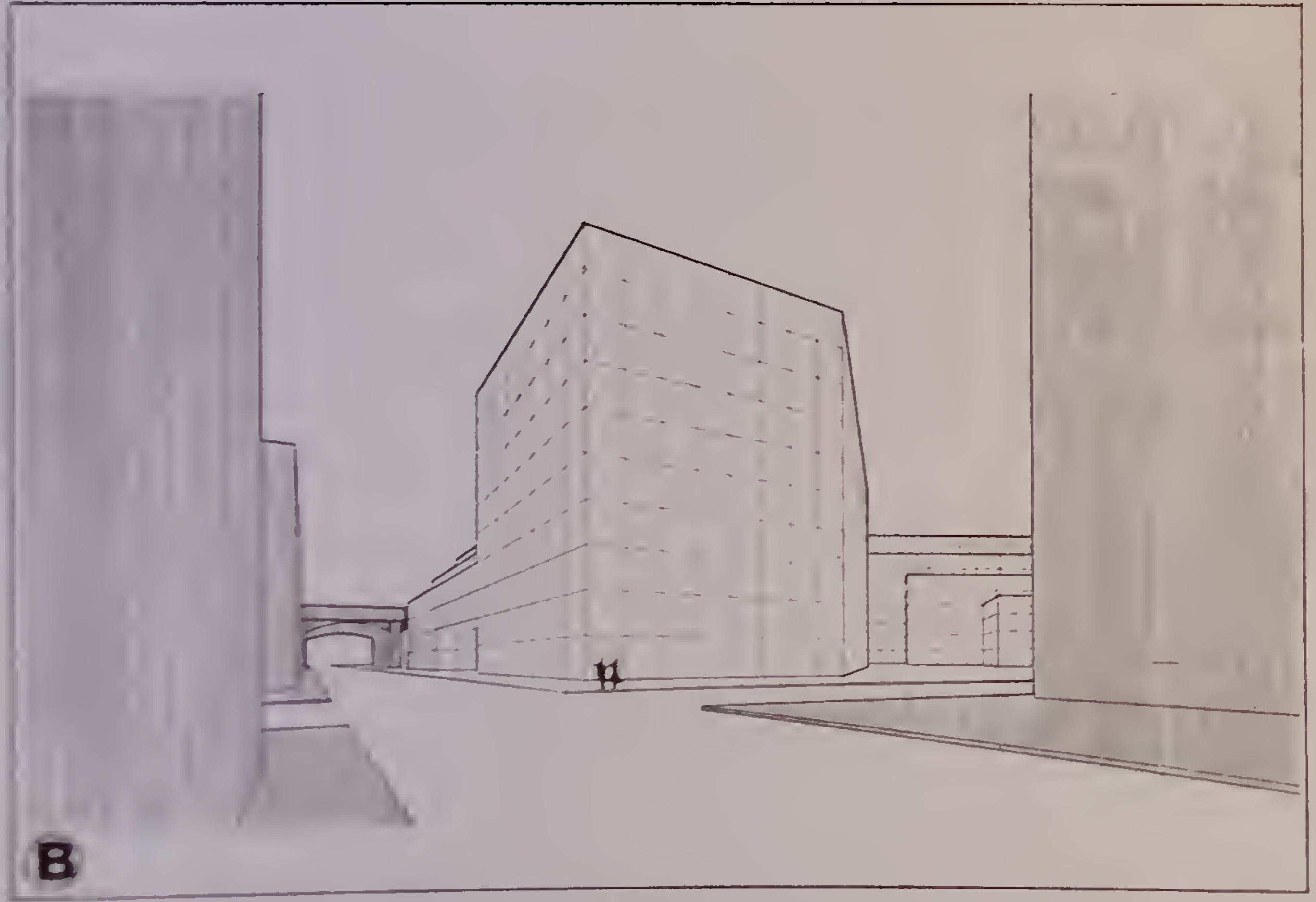
1

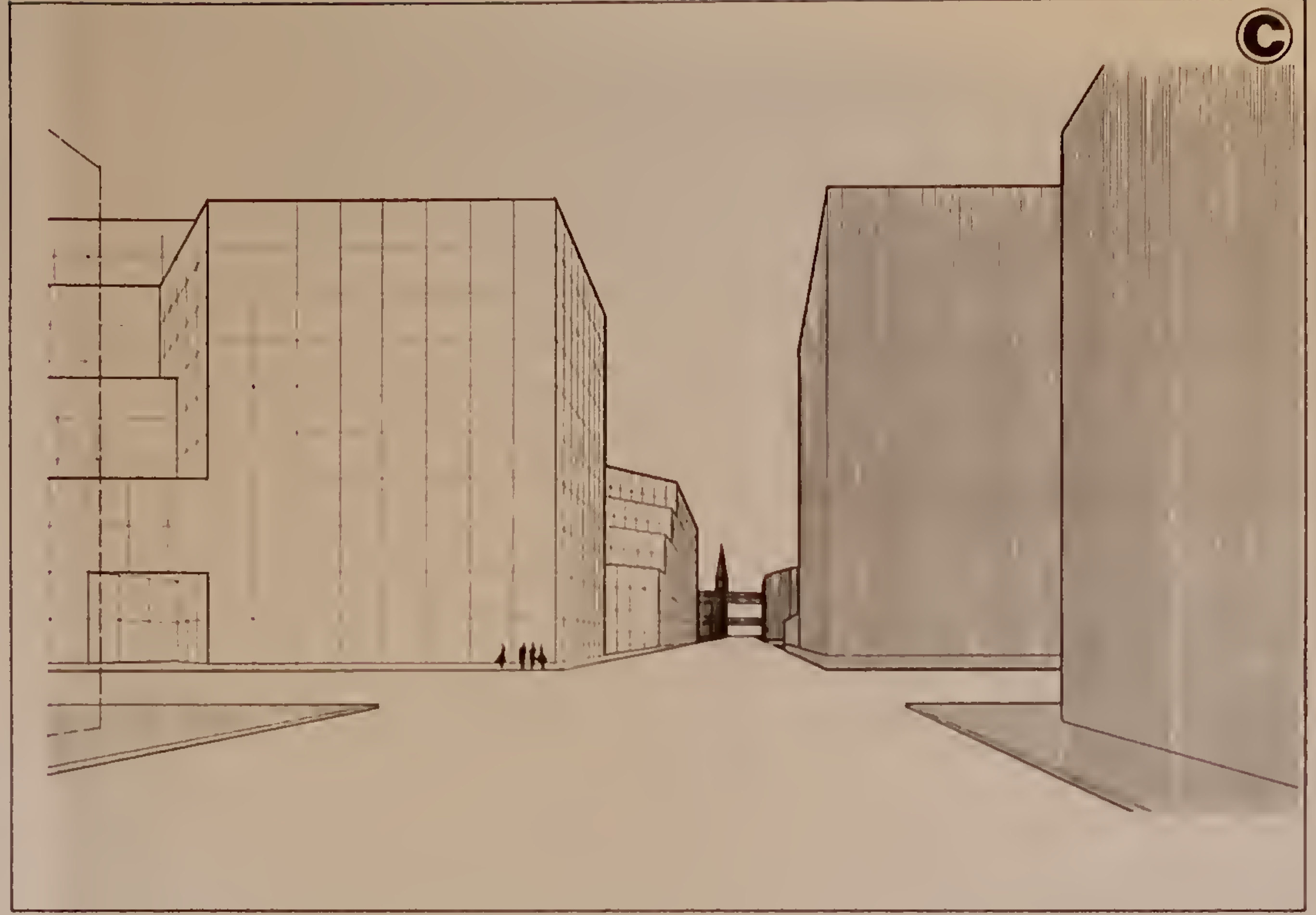
2

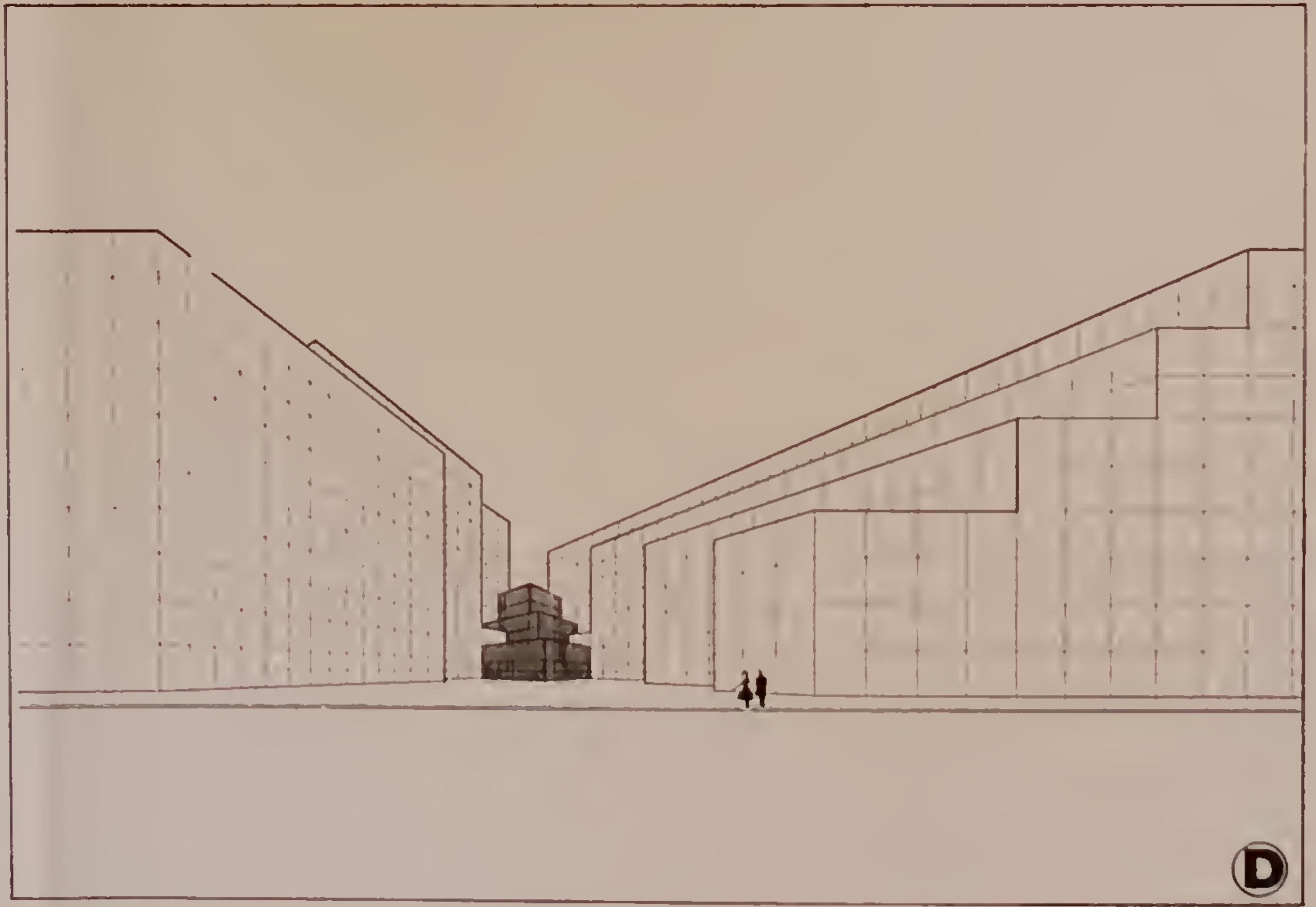
3

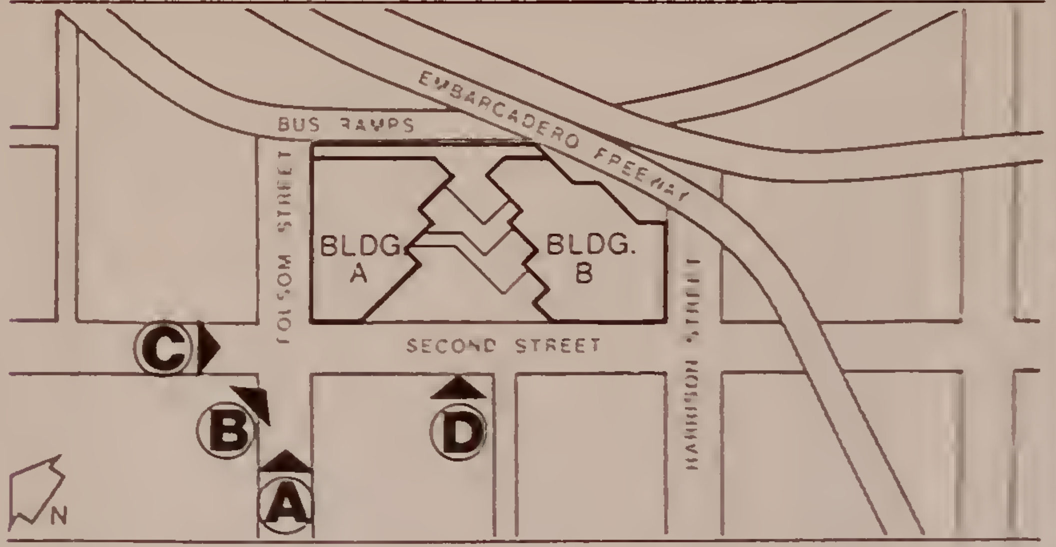
4











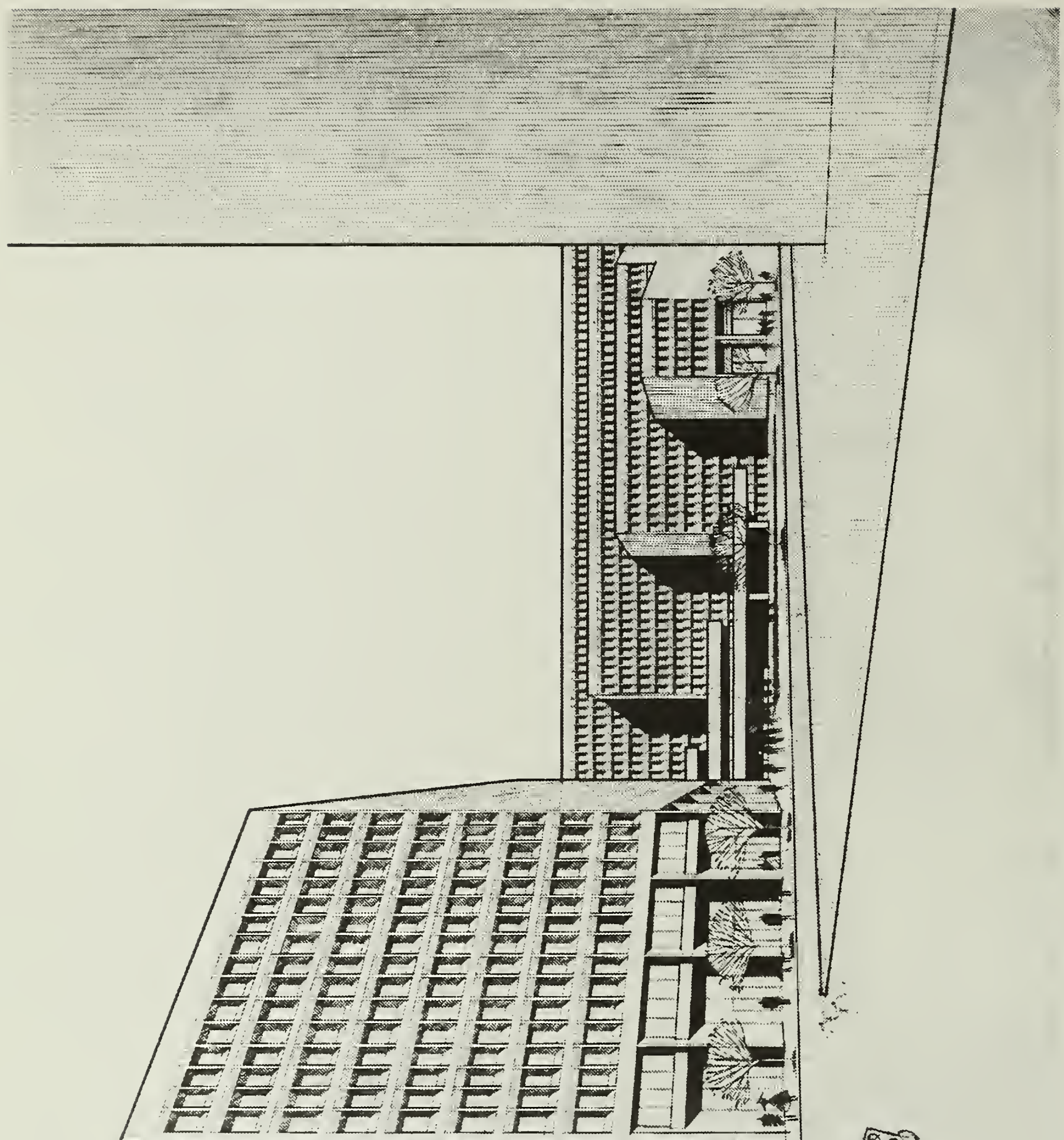
STUDY 4 presents a form a massing concept that would incorporate elements of squared corners, terraced facades and varied massing; visual emphasis would be developed along the street level and within the central courtyard. Combined, these elements would provide a transition in height and mass, and a sense of scale, in relationship to surrounding buildings.

Second and Folsom Project
San Francisco, California

Based upon comments received during the City Planning Department's design review of the form and massing studies, it was concluded that STUDY 4 offered the most favorable direction. This concept would be used as the basis for further analysis and design focusing upon refinement of the building mass, treatment of the facade and relationship of the building design to the pedestrian scale and surrounding forms.

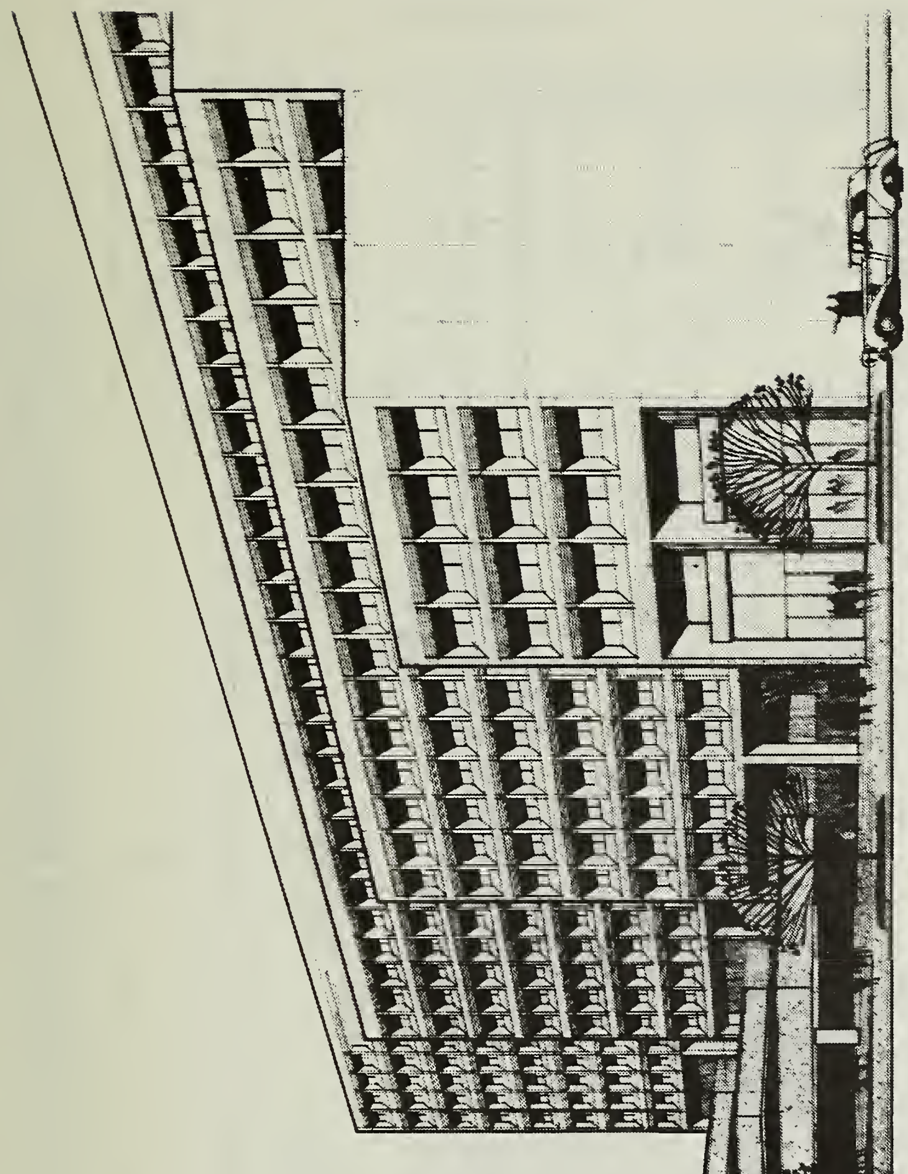
The following illustrations represent a development in further thinking, based upon STUDY 4, and includes perspective sketches, a diagrammatic floor plan, sections and a central courtyard plan.

4



4 PERSPECTIVE: NORTHEAST VIEW

Second and Folsom Project
San Francisco, California

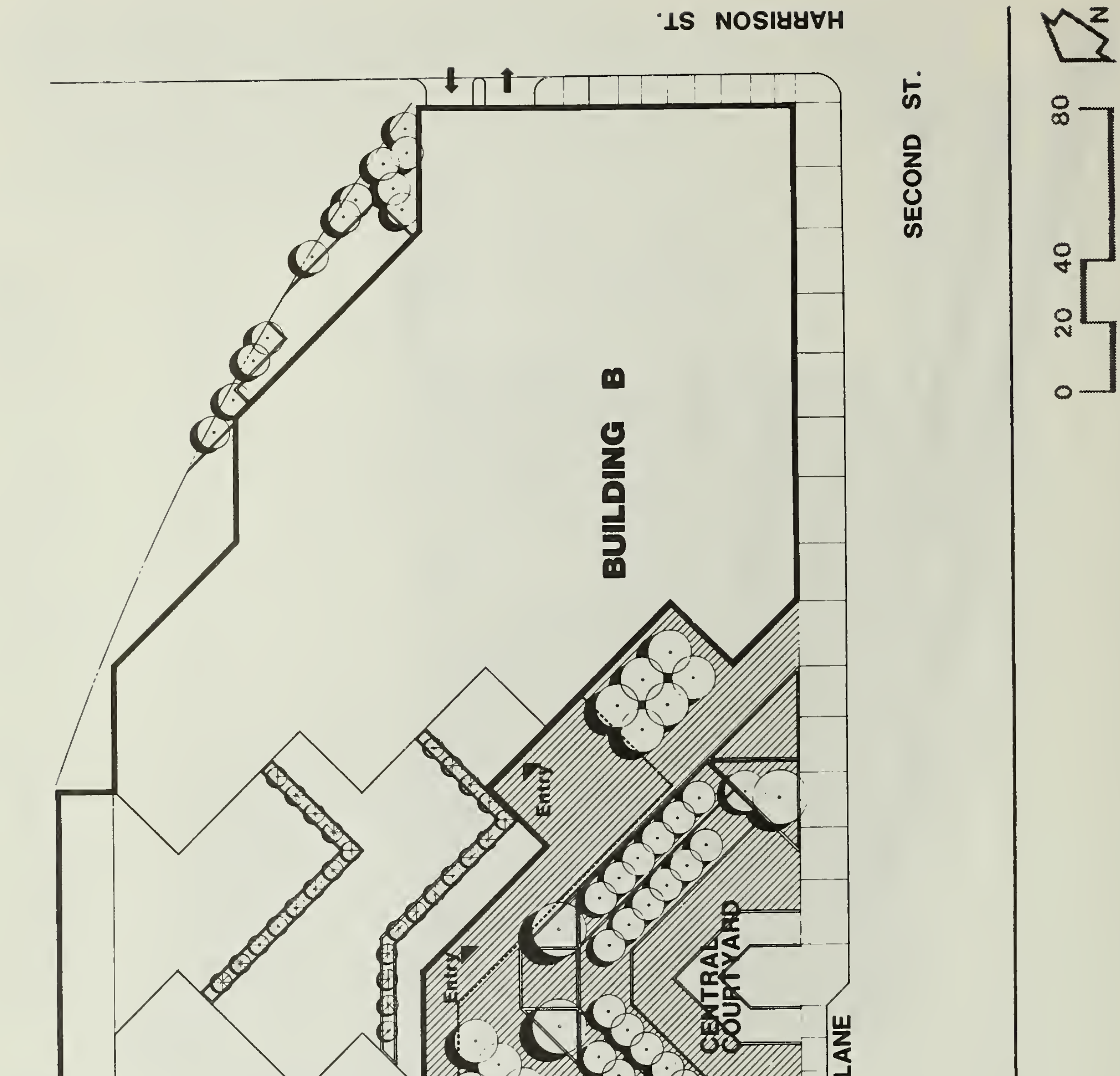


Second and Folsom Project
San Francisco, California

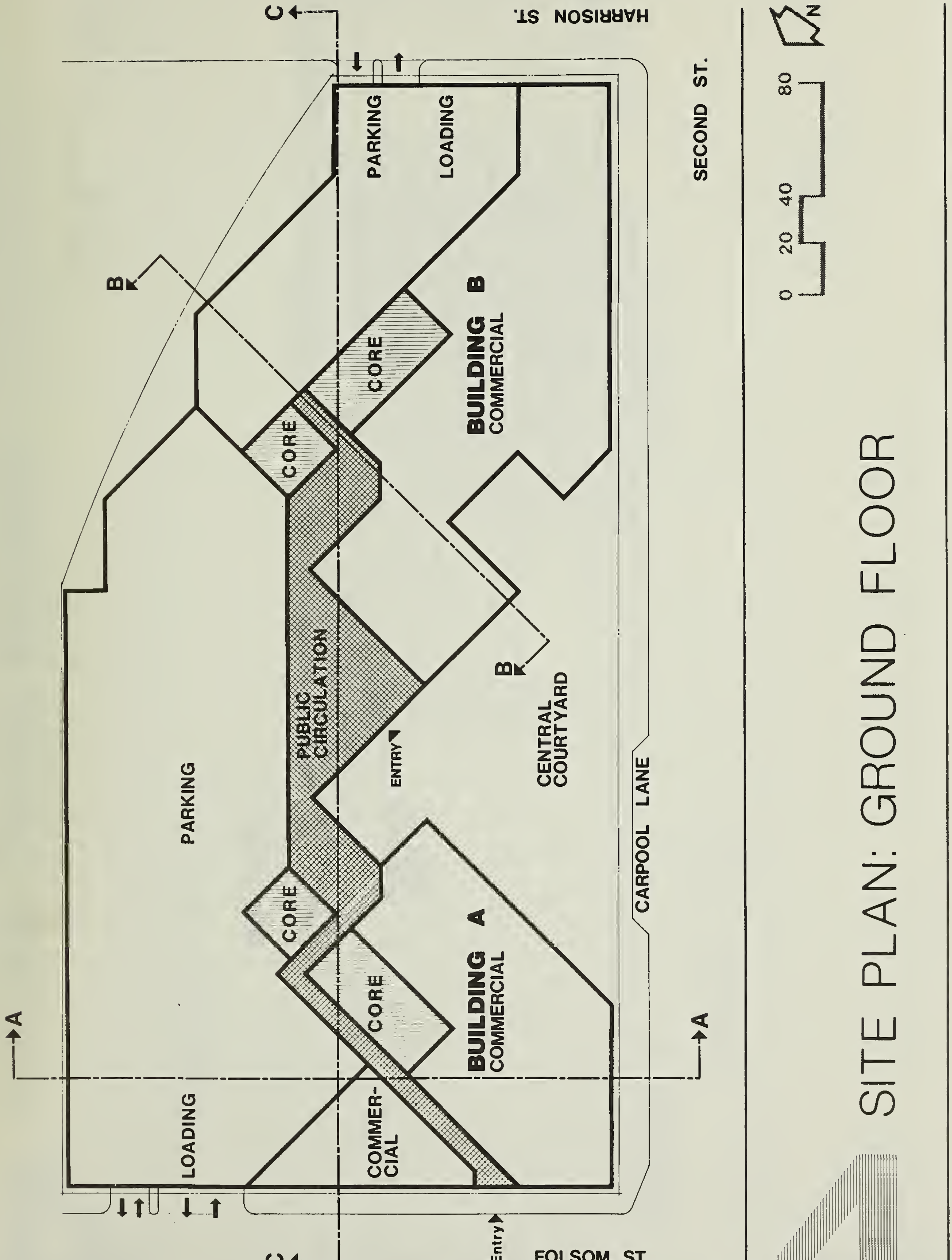
4 PERSPECTIVE: CENTRAL COURTYARD

SITE PLAN: COURTYARD/LANDSCAPE

4

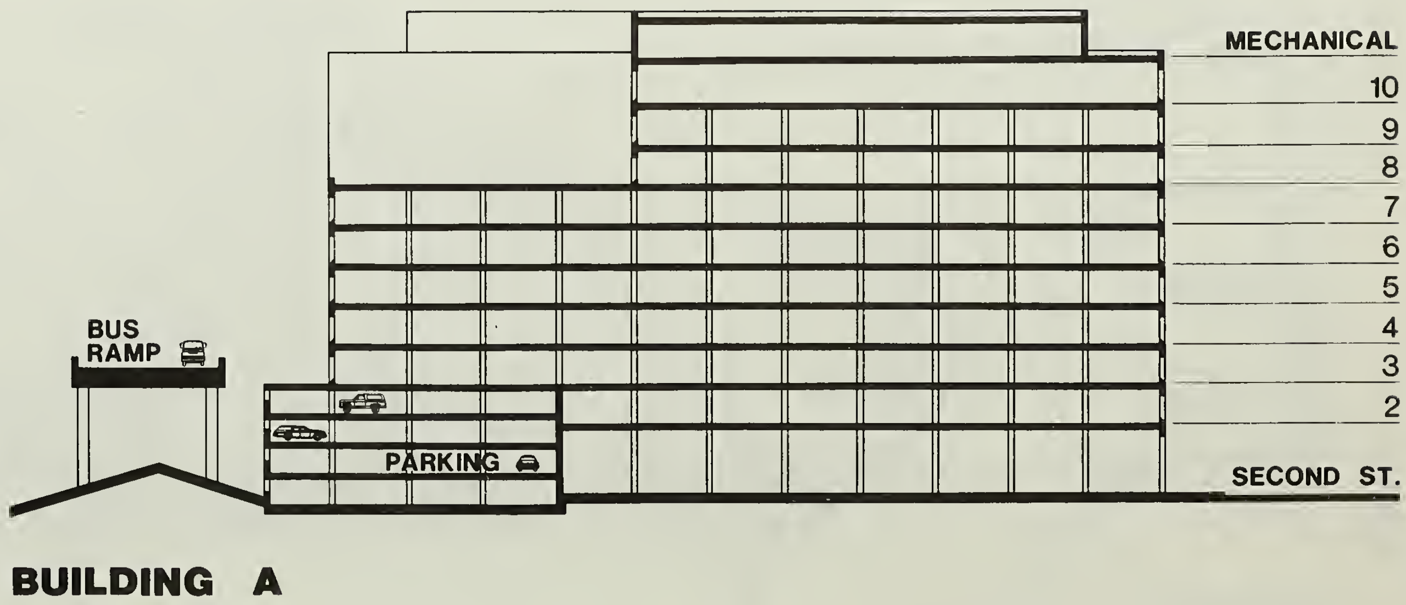


Second and Folsom Project
San Francisco, California



Second and Folsom Project
San Francisco, California

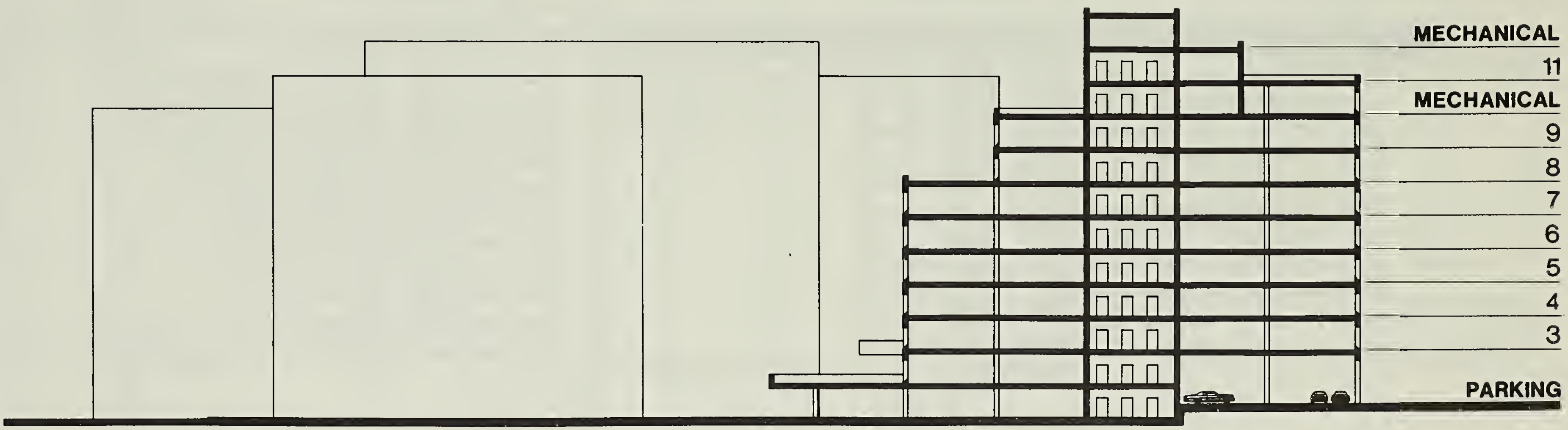
Second and Folsom Project
San Francisco, California



Section A-A

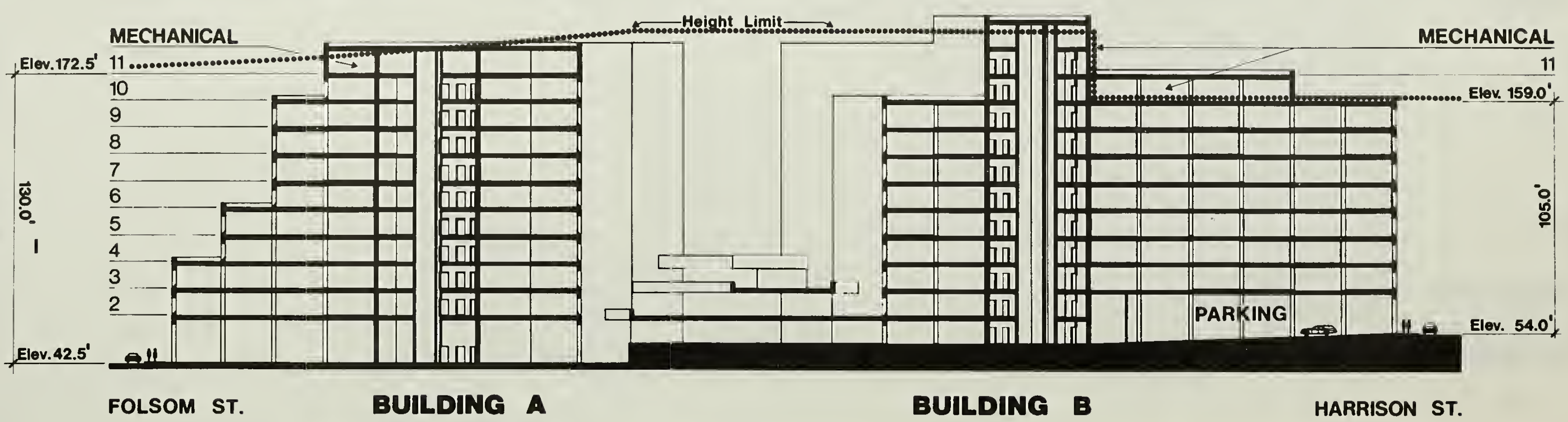
4 BUILDING CROSS SECTION

Second and Folsom Project
San Francisco, California



Section B-B

4 BUILDING CROSS SECTION



Section C-C

4 BUILDING CROSS SECTION

Second and Folsom Project
San Francisco, California

● APPENDIX G

ASSUMPTIONS AND PROCEDURES FOR CALCULATION OF WORST-CASE CURBSIDE CARBON MONOXIDE CONCENTRATIONS

The procedures used to calculate the worst-case curbside carbon monoxide (CO) concentrations reported in Table 16 of the EIR are those promulgated by the Bay Area Air Quality Management District.[1] The calculations are based upon a Gaussian line source model[2] using a wind angle of 22.5 degrees to the road, and wind speeds of one meter per second and two meters per second for the 1-hour and 8-hour averaging times, respectively. Stability class is Turner E for the 1-hour average and Turner D for the 8-hour average.

Peak hour and peak 8-hour traffic volumes were used at speeds of 10 mph for the peak hour traffic and 20 mph for the 8-hour traffic. The emission factors used are these supplied by the BAAQMD which are based upon EMFAC 6C.[3]

Background concentrations used were 3.0 ppm for the 1-hour and the 8-hour average. The model employed takes the form:

$$\text{Concentration} = \frac{2Q}{\sqrt{2}\,\pi\, U \sigma_z \, \mathrm{SIN}\, \varnothing}$$

Where Q is the emission strength (based on the number of vehicles and the emission rate in grams/mile, U is the assumed windspeed, σ_z is the vertical dispersion parameter (a function of stability) and SIN is the sine function, and $\varnothing$ is the angle of the wind to the road. Under the worst-case assumptions this equation reduces to:

Concentration = KQ where

= Kx (vehicles/hour) x grams/mile)

Table G-1 summarizes the calculation.

---

[1] Bay Area Air Pollution Control District, Guidelines for Air Quality Impacts of Projects, San Francisco, CA, June 1975.

[2] Beaton, et al. 1972, Air Quality Manual, California Division of Highways, Materials and Research Department, Sacramento, CA.

[3] State of California Air Resources Board, Technical Services Division, Data Processing and Emission Branch Motor Vehicle Emissions and Projections Section, Procedure and Basis for Estimating On-Road Motor Vehicle Emissions, Sacramento, CA, January 1980.

TABLE G-1
SUMMARY OF CARBON MONOXIDE CALCULATIONS

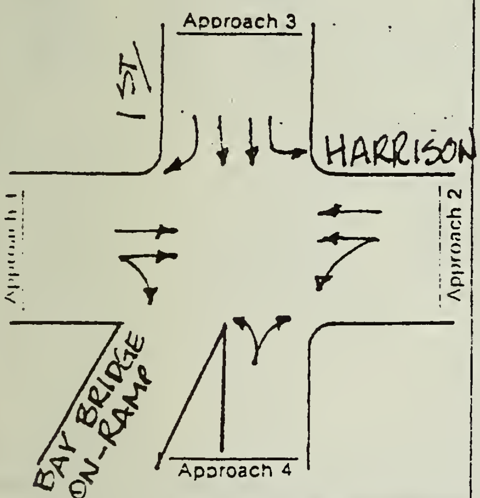
Intersection	Condition	Approach Volume	Emission Factor	Roadway Concentration (PPM)	Background Concentration (PPM)	Total Concentration
		1-Hour Averaging Time				
First/Folsom	Existing	2520	66.0	13.0	3.0	16.0
	Project	2734	54.6	11.7	3.0	14.7
	Project and Other Development	3150	54.6	13.4	3.0	16.4
First/Harrison	Existing	2688	66.0	13.9	3.0	16.9
	Project	2916	54.6	12.5	3.0	15.5
	Project and Other Development	3360	54.6	14.4	3.0	17.4
		8-Hour Averaging Time				
First/Folsom	Existing	15,020	47.5	3.6	3.0	6.6
	Project	16,300	37.1	3.1	3.0	6.1
	Project and Other Development	18,775	37.1	3.5	3.0	6.5
First/Harrison	Existing	13,380	47.5	3.2	3.0	6.2
	Project	14,520	37.1	2.7	3.0	5.7
	Project and Other Development	16,725	37.1	3.1	3.0	6.1

INTERSECTION CAPACITY ANALYSIS

Intersection 1ST/HARRISON Design Hour P.M. PEAK

Other Conditions EXISTING TRAFFIC (COUNTED 5/8/81)

1. Identify Lane Geometry



4. Left Turn Check

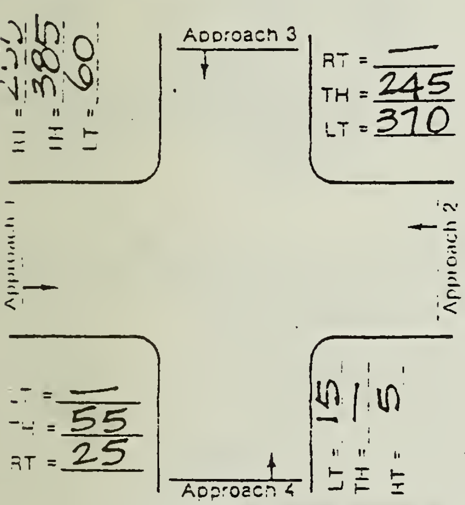
	Approach 1	2	3	4
a. Number of change intervals per hour				
b. Left turn capacity on change interval, in vph				
c. G/C Ratio				
d. Opposing volume in vph				
e. Left turn capacity on green, in vph				
f. Left turn capacity in vph (b + e)				
g. Left turn volume in vph				
h. Is volume > capacity (g > f)?				

6b. Volume Adjustment for Multiphase Signal Overlap

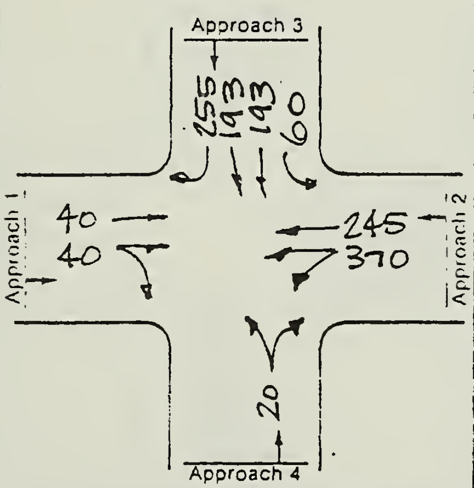
Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph

2φ

2. Identify Volumes, in vph



5. Assign Lane Volumes, in vph



7. Sum of Critical Volumes

193 + 15 + 40 + 370

= 618 vph

8. Intersection Level of Service

A

9. Recalculate

Geometric Change ______

Signal Change ______

Volume Change ______

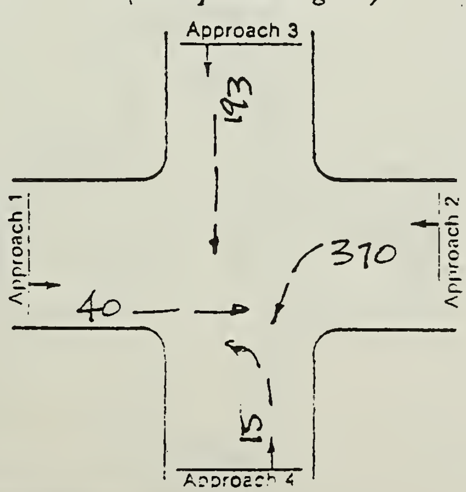
3. Identify Phasing

→ ←	A1A2
↓ ↑	A3A4

A1 → A3 ↓ B1 ↱ B3 ↰

A2 ← A4 ↑ B2 ↲ B4 ↳

6a. Critical Volumes, in vph (two phase signal)



Service Level Ranges

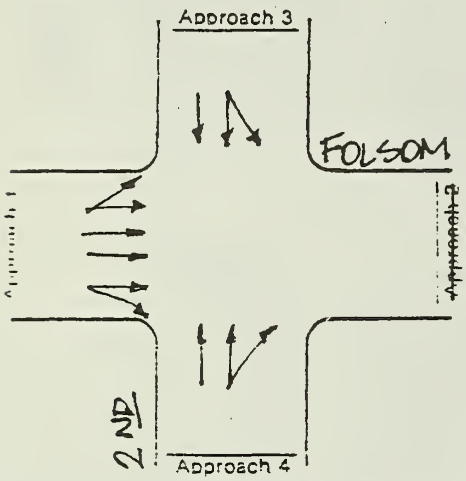
Level	Sum of Critical Volumes 2 Phase	3 Phase	4+ Phases
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	not applicable		

INTERSECTION CAPACITY ANALYSIS

Intersection 2ND/FOLSOM Design Hour P.M. PEAK

Other Conditions EXISTING TRAFFIC (COUNTED 5/8/81)

1. *Identify Lane Geometry*



4. *Left Turn Check*

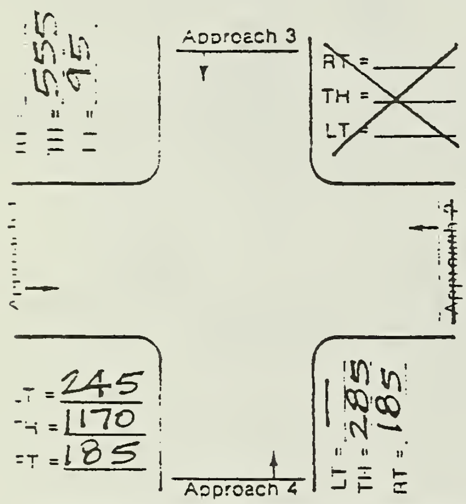
	Approach 1	2	3	4
a. Number of change intervals per hour				
b. Left turn capacity on change interval, in vph				
c. G/C Ratio				
d. Opposing volume in vph				
e. Left turn capacity on green, in vph				
f. Left turn capacity in vph (b + e)				
g. Left turn volume in vph				
h. Is volume > capacity (g > f)?				

6b. *Volume Adjustment for Multiphase Signal Overlap*

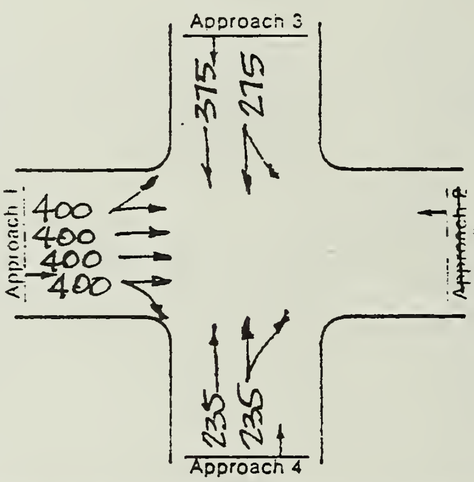
Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph

2φ

2. *Identify Volumes, in vph*



5. *Assign Lane Volumes, in vph*



7. *Sum of Critical Volumes*

400 + 375 + — + —

= 775 vph

8. *Intersection Level of Service*

A

9. *Recalculate*

Geometric Change ______

Signal Change ______

Volume Change ______

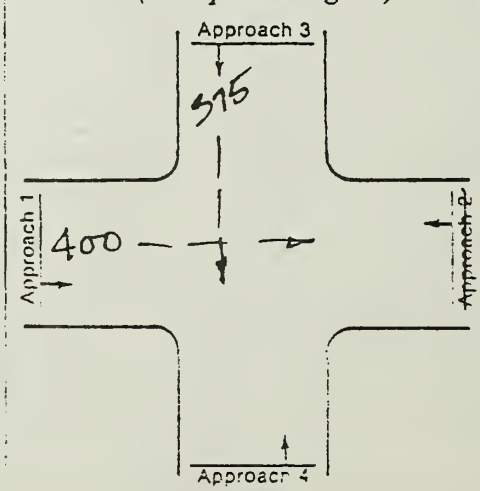
3. *Identify Phasing*

Phase	
→	A1
↓↑	A3A4

A1 → A3 ↓ B1 B3

A2 ← A4 ↑ B2 B4

6a. *Critical Volumes, in vph (two phase signal)*



Service Level Ranges

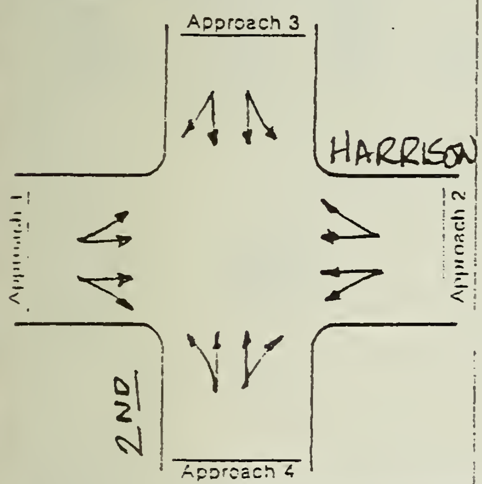
Level	Sum of Critical Volumes 2 Phase	3 Phase	4+ Phases
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	not applicable		

INTERSECTION CAPACITY ANALYSIS

Intersection 2ND / HARRISON Design Hour P.M. PEAK

Other Conditions EXISTING TRAFFIC (COUNTED 5/8/81)

1. Identify Lane Geometry



4. Left Turn Check

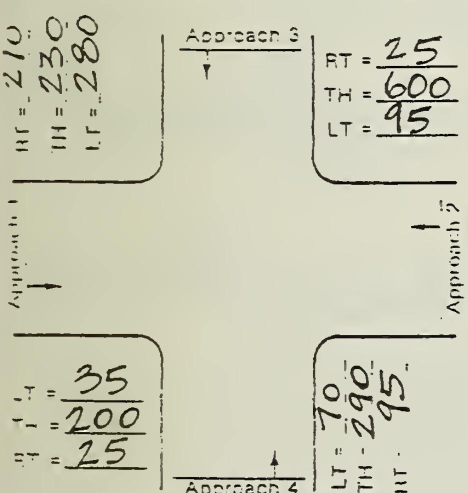
	Approach 1	2	3	4
a. Number of change intervals per hour				
b. Left turn capacity on change interval, in vph				
c. G/C Ratio				
d. Opposing volume in vph				
e. Left turn capacity on green, in vph				
f. Left turn capacity in vph (b + e)				
g. Left turn volume in vph				
h. Is volume > capacity (g > f)?				

6b. Volume Adjustment for Multiphase Signal Overlap

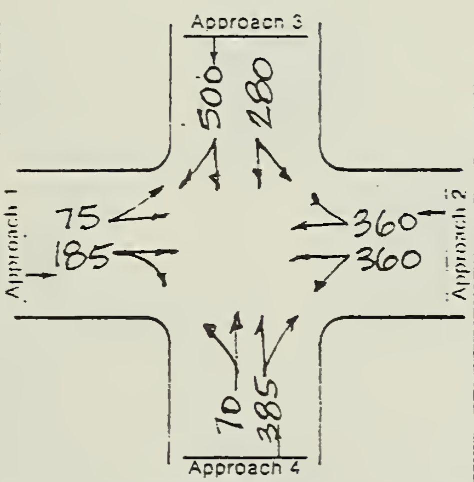
Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph

2φ

2. Identify Volumes, in vph



5. Assign Lane Volumes, in vph



7. Sum of Critical Volumes

385 + 280 + 360 + 35

= 1060 vph

8. Intersection Level of Service

B/C

9. Recalculate

Geometric Change ______

Signal Change ______

Volume Change ______

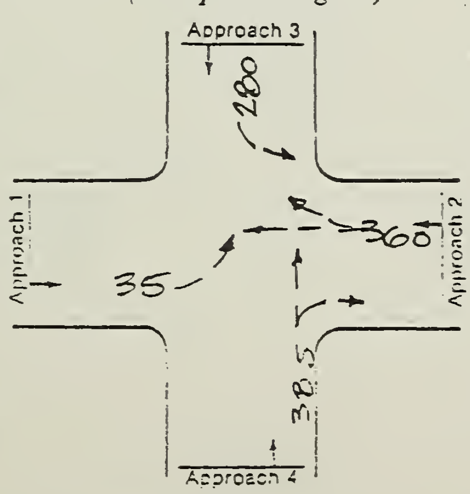
3. Identify Phasing

→ ←	A1A2
↓ ↑	A3A4

A1 → A3 ↓ B1 B3

A2 ← A4 ↑ B2 B4

6a. Critical Volumes, in vph (two phase signal)



Service Level Ranges

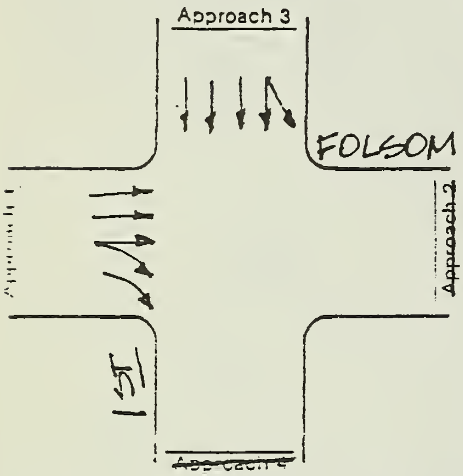
Level	Sum of Critical Volumes 2 Phase	3 Phase	4+ Phases
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	not applicable		

INTERSECTION CAPACITY ANALYSIS

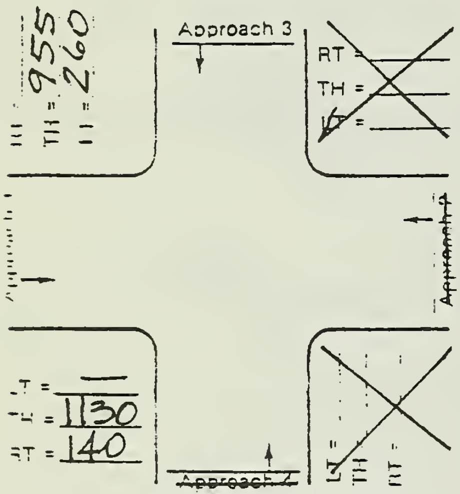
Intersection 1ST / FOLSOM Design Hour P.M. PEAK

Other Conditions EXISTING TRAFFIC (COUNTED 5/8/81)

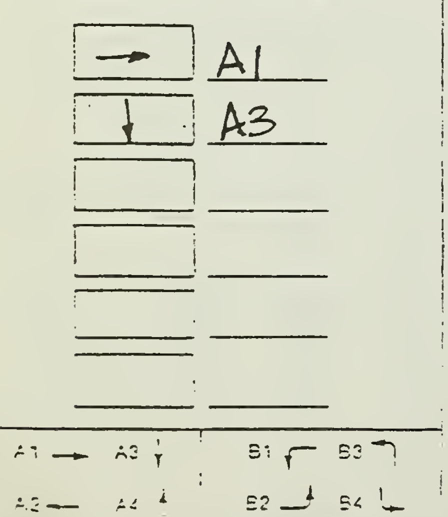
1. *Identify Lane Geometry*



2. *Identify Volumes, in vph*



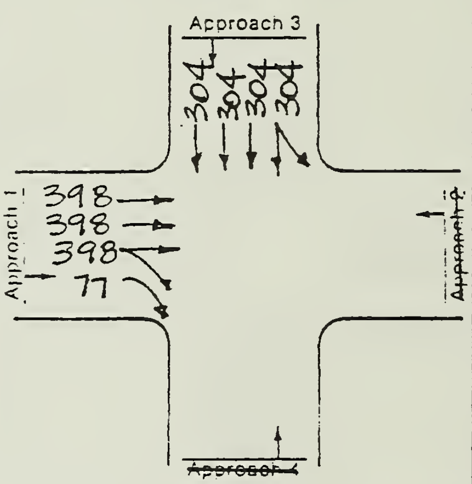
3. *Identify Phasing*



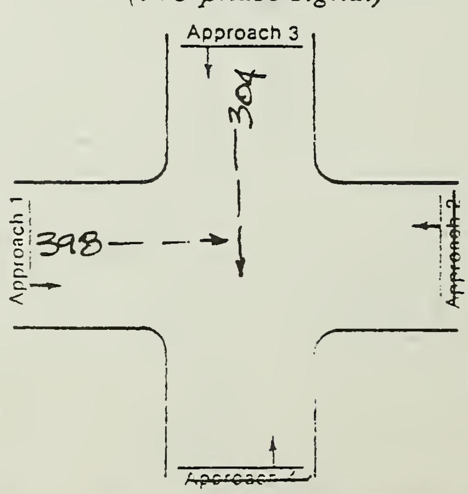
4. *Left Turn Check*

	Approach 1	2	3	4
a. Number of change intervals per hour				
b. Left turn capacity on change interval, in vph				
c. G/C Ratio				
d. Opposing volume in vph				
e. Left turn capacity on green, in vph				
f. Left turn capacity in vph (b + e)				
g. Left turn volume in vph				
h. Is volume > capacity (g > f)?				

5. *Assign Lane Volumes, in vph*



6a. *Critical Volumes, in vph (two phase signal)*



6b. *Volume Adjustment for Multiphase Signal Overlap*

Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph
2φ			

7. *Sum of Critical Volumes*

304 + 398 + — + —

= 702 vph

8. *Intersection Level of Service*

A

9. *Recalculate*

Geometric Change ______________

Signal Change ______________

Volume Change ______________

Service Level Ranges

Level	Sum of Critical Volumes 2 Phase	3 Phase	4+ Phases
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	not applicable		